THE OLD TIMER'S BULLETIN

OFFICIAL JOURNAL, ANTIQUE WIRELESS ASSOCIATION, INC.

Published for the Old Time Wireless Operator, Historian and Collector

Vol. 20 DECEMBER 1979 No. 3

Devoted to research and documentation of the history of wireless communications.

Member:
American Association of Museums
Regional Conference of Historical Agencies

ANTIQUE WIRELESS ASSOCIATION, INC.

HOLCOMB, NEW YORK 14469

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"The Old Timers Bulletin"

Editor: Bruce Kelley

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The OLD TIMERS BULLETIN is published approximately four times a year at Holcomb, N.Y. by and for members of the Antique Wireless Association, Inc., a non-profit historical society chartered by the State of New York.

This publication does not accept paid advertising nor is it liable in any way in any buying or selling transaction entered into by its readers as a result of its contents. The Old Timers Bulletin is available only as part of the Antique Wireless Association membership fee and its issuance is subject to change as to frequency, content and size from time to time.

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Houck Award Chairman and associated activities

Change In Address?

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PHONE (SSB)--3866 kc. Tuesday 8 PM
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CW -- 3584 kc. daily at 4 PM
First Wed. each month at 8 PM

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This issue features:
"THE RADIO OPERATOR"

Our next issue will feature material for "THE COLLECTOR"

What's Coming Next!
in the "Old Timer's Bulletin

Best's 45,000 cycle Super
Collecting Hallicrafter Equip.
Collecting Early Batteries
Testing Unusual Tubes
History of James Millen Co.
The CRL Receiver and Zenith
Armstrong's Super-Regen set
History of Telegraph Code
Tuska Receivers
Horn Speaker Manufacturing
Light Bulb Development
A 1932 Transmitter
plus much, much more.....

In Memoriam

MARION ARMSTRONG
OREN GAMBILL, W5WI
W. H. LEWIS, W2BCU
FRANK GARNET
KEN RICHARDSON
E. B. REDINGTON, W4ZM

COMING EVENTS
ANTIQUE WIRELESS ASSOCIATION

OLD TIME TRANSMITTING CONTEST
Jan. 16 and Jan. 24

SOUTH-EAST AWA CONFERENCE
Charleston, S. C., April 18-19

I. H. R. S./AWA SPRING MEET
Aurburn, Indiana, April 19

A. W. A. MUSEUM OPENS for season
Sunday, May 4

LOCAL SPRING MEET - May 3
American Legion Hall, Holcomb, N. Y.

NEW YORK STATE ARRL CONVENTION
Rochester, N. Y., May 16-18

A. W. A. NATIONAL CONFERENCE
Sept. 25, 26, 27, 28

A. W. A. MUSEUM closes for season
Sunday, October 26

ANNUAL BUSINESS MEETING
November 2

ANNUAL CHRISTMAS PARTY
Saturday, Nov. 29

Note: Various regional "meets" will be announced in the March Bulletin

CONNIE-MAC (W3SW) RETIRES

Members of the ARRL Atlantic Division have received word that Harry Mc Conaghy has retired as Director, a post he has served diligently for many years. A job well done... you will be missed, OM.

EDISON MAY NOT HAVE BEEN FIRST

So you think Edison [or Swan] was the first to use a carbon filament in a vacuum for light?

Suggest you read an article in the June 12, 1875 issue of Scientific American magazine [p.373]. A Russian inventor by the name of M. Ladiguin [St. Petersburgh] had a carbon filament in a glass "cylinder without oxygen" several years before Edison....

[Copy from John Songbird
Albuquerque, N.M.]

Important

Notify AWA treasurer immediately of change in address. P. O. Dept. will NOT forward 3rd class mail. There will be a $1. charge per issue by AWA for forwarding 3rd Class mail.

NEW MEMBERS

Listed below are new members who are (or were) associated with electronic communication:

NICK TONKIN, Defense Communication Agency (D.O.D.)

ROBERT BAIRD,(W9NN) Eng. Super. of Station WGN

ARNOLD BRIGGS, G.E. (TV), RCA, Sylvania, Rola Loudspeaker Co.

RONALD HAUSER, Broadcast Engin.

DR. JOSEPH HULL, Scientist, Litton Industries

DICK WADDELL, F.C.C.

GARY REIF, Station WITR

PETER BALYOZIAN, F.C.C.

DENNIS HUBBS (KA1BYQ) Stations WSNG, WADS, etc.

PAUL WEISS, Stat. WBUR (Boston)

ED DOMBROWSKI (W8YKP) Electronic Tech.

ERWIN WAITZBAUER (Salzburg, Austria) Austrian Mili. Com.

KENNARD MOSS (ex-XE2DS,XE1DDF) Electronic Engineering

DWIGHT HILL (K2KWK) Harris R.F. Communication

JACOB SCHANKER (W2STM) WCMF, WBFB, WXXI,WBAI,WNYE

MILTON KOIVU, Litton Industries

BILL BOYLES (N6DS) Electronics Instructor, Merced College

EARL WINGER, Owner/founder WDOD

CHARLES McKEE (WB8SAM) Radio Division of Ohio Bell Tele.

GLENN JOHNSON (W2RMS) G.R.S.

CLAY SEIDEL, RCA (Camden,N.J.)

BERNARD GOETZ (NYC) Electrical Testing Laboratory

HENRY BOYCE (W2RVG) WHAM, WROC-TV

C.E. STAATS (W6GF) Manager of Hobrecht Radio Co.

ROBERT KAROW, Collins Radio Co.

PETER DENMAN (Arthur,Ontario) Denman TV Co.

KENNAN HERRICK (W6WOG) Electronics Engineer

HOWARD PLOUF, Forbes & Wallace Co.

STEPHEN SMITH (WA4JUA) RCA

STUART MEYER (W2GHK) Link Radio, Dumont Labs,Hammarlund, RCA,etc.

BACK ISSUES

Historical reference and good reading.....

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FIRST ANNUAL REGIONAL MEETING OF THE ANTIQUE WIRELESS ASSOCIATION SPONSORED BY UPPER MIDWEST VINTAGE WIRELESS SOCIETY

The first meeting for radio historians and collectors in Minnesota and nearby states took place this past August and was a tremendous success. Elmer Schubert presented the "Crosley Story" and Lou Moreau's show "Communication Explosion" were among the featured programs. Joe Pavek's Museum, a large flea market and equipment handled by Jack Ligday and Jack Bacon highlighted the activities. Steve Raymer and Phil Drexler handled the registration.

First Place Winners in various Contest categories:

Ed Kaatz (German tuner), Bob Lessard (Mother Oats box xtal set), D. Peterson (Kennedy 281/521), Chuck Bradley (Federal 110), Steve Damielson (WHB Victoreen) and Brian Thompson (Philco 90).

RECENT RADIO and ENTERTAINER OBITUARIES

JOHN SCOTT-TAGGART

The well known British radio pioneer and designer has passed away. Receivers of his design were famous during the 20's and 30's. He authored numerous articles and books on the subject.

30,000 WATTS OF AUDIO

BUFFALO — The Buffalo Convention Center equipped a two-block-long dance floor with a 30,000-watt music system and two-story high speakers for what it billed the "World's Largest Disco" last night.

Esther Armstrong, 81, the Wife Of Inventor of FM Radio System

Esther Marion Armstrong, the wife of the late Maj. Edwin Howard Armstrong, a leading American inventor, died Wednesday at the Exeter (N.H.) Hospital, after a brief illness. She was 81 years old and lived in Rye Beach, N.H.

Mrs. Armstrong, who was born in Merrimac, Mass., came to New York as a young woman and was married in 1922. Major Armstrong was already recognized for his contributions to radio and later became known as the inventor of frequency modulation (FM) broadcasting.

After Major Armstrong died in 1954, Mrs. Armstrong carried on his work. Following protracted court proceedings she succeeded in formally establishing him as the inventor of FM. She was the founder of the Armstrong Memorial Research Foundation, in which she took part until her death.

She is survived by two nephews and a niece.

[W2AY]

Richard W. Konter Is Dead at 97; Accompanied 2 Byrd Expeditions

Richard W. Konter, a former chief radioman in the Navy and a member of Adm. Richard E. Byrd's expeditions to the Arctic and the Antarctic in 1926 and 1929, died Saturday at the Veterans Administration Hospital in Fort Hamilton, Brooklyn. He was 97 years old and a lifelong resident of Brooklyn.

Mr. Konter joined the Navy in 1897 at the age of 15, and was a veteran of the Spanish-American War. From about 1930 to 1970, he led a band and a group of entertainers that performed in the New York area at children's shelters and hospitals for the chronically ill and at homes for the aged.

He is survived by his wife, the former Johanna Pool.

HOMER E. CAPEHART

82 years. He founded Capehart Automatic Phonograph Co. of America in 1927, which later merged with Farnsworth Television & Radio Co. In 1932, he founded the Packard Mfg. Co. and was vice-president of Rudolph Wurlitzer Co. of Cincinnati. He was active in politics and served three terms in the U.S. Senate from Indiana.

Ben Gross, Radio and TV Writer, Dead at 87

Ben Gross, former radio and television columnist of The Daily News, died Monday of a heart attack at The New York Infirmary. He was 87 years old and lived in Manhattan.

Mr. Gross had covered the broadcasting beat at The News for 46 years when he retired in 1971. He joined the newspaper in 1925, as a court and labor reporter and a rewriteman, when The News was published on Park Place in New York's old newspaper row.

One day, the reporter The News had assigned to cover the first, historic radio broadcasts called in sick and complained about his job, saying there was no future in radio. Mr. Gross was given the radio beat, in addition to his other reporting and rewrite chores.

Learned How to Turn One On

He did not know how to operate the crystal set in the newsroom, but he went to a local bar and got an electrician he knew to instruct him in turning on the radio. The young reporter, like his predecessor, did not want to cover radio, but his familarity with the office's crystal kept him on the job when he tried to give it up. His editors insisted that he keep at it, telling him that "you're the only one around here who knows how to turn one of these things on."

Mr. Gross recalled that the first radio program he covered was a skit by Billy Jones and Ernie Hare, the "Happiness Boys," a popular team who had started on radio in 1921.

On Nov. 15, 1926, he covered the first radio network show. This was the National Broadcasting Company's five-hour premiere that billed, among others, Weber & Fields, the New York Philharmonic Orchestra, Mary Garden, who was heard from Chicago, Will Rogers, who broadcast from Independence, Mo., Ben Bernie and Vincent Lopez.

Authorize US Participation in Transatlantic Telephone Cable

The FCC has authorized six major US communications corporations to participate with Canada and 18 European countries in the construction and operation of a seventh transatlantic submarine telephone cable of 4,200 circuits, to be put into service by July 1, 1983.

The authorization is subject to a number of conditions requiring among other things, that AT&T, the dominant owner of the circuits, make ownership interests in circuits available at FCC request, to present and future US carriers for operating under agreements with foreign concerns that depend on transatlantic circuits; and that AT&T make available, again at FCC request, interests in circuits to US international carriers for communication with countries outside the 26 nation association of European postal and telecommunications agencies.

The authorization allocates the circuits in units of half-circuits among the six US carriers by adopting the proposed allocation agreement among all participants. The FCC retained jurisdiction to reallocate the US carriers' interests, with the concurrence of foreign agencies and administrations when necessary.

Cable circuits are allocated in half-circuits because control of each circuit is shared equally by the North American and European carrier or agency jointly providing the circuit to subscribers.

Reprint permission
Communication News

NATIONAL HISTORICAL RADIO CONFERENCE

HUGE SUCCESS !

A GREAT TIME ! BIG FLEA MARKET.....

TOP SPEAKERS..

..SEE OLD FRIENDS AND MAKE NEW ONES..

AUCTION - WOW! WHEELER-DEALERS?

Yes, it was quite an affair. Attendance was in the 600 range with 300 staying for the Saturday evening banquet and awards. Some members came as early as Tuesday and stayed until the following Monday. Flea market activity peaked Thursday P. M., was dampened by a Friday rain and picked up again Saturday.

Diversified programming provided something for just about everyone including the ladies. Other than for a parking problem and tight chair spacing at the banquet (which will be taken care of next year) everything went smoothly. Here are some of the highlights:

---the flea market, an exciting part of the Conference, was larger than ever. Several suggestions have been received to improve the parking situation for smoother operation in 1980.

---"Felix the Cat" captured members' attention as he spun around on a phono turn-table while being televised mechanically by Bob Lozier.

---Women were amply recognized by Lou Moreau's fine documentary and the presence of Elizabeth Zandonini, W3CDQ who was licensed in 1917 and is still an active radio operator.

---Edison's achievements were summarized by Don Matteson and Bruce Roloson and backed up by Ralph Muchow's rare display of lamps in the contest.

---present were officers from many clubs including several from faraway places: Dave Brodie and Jim Cirner, California; Barney Wooters, Colorado; Joe Pavek, Minnesota; and George Potter from the Texas club.

---Curators from leading museums were among those attending:

Elliot Sivowitch and Ray Hutt (Smithsonian Institution, Washington, D. C.), Don Matteson (Ford Museum, Dearborn, Mich.), Ernie de Coste (Canadian National Science Museum, Ottawa, Canada)

[Continued on next page]

CONFERENCE ACTIVITY

and Thorn Mayes (Foothills Electronic Museum, Los Gatos, Calif.).

---Two authorities in their field, John Nagle and Lauren Peckham, aroused technical interest in classic receivers and vacuum tubes.

---Mel Comer's "Show and Tell" provided an excellent program for the collector. Winners for his session are:
1st-Larry Wright with an unusual xtal set.
2nd-Lou Lindauer with a mystery OT xmtr made by Westinghouse.
3rd-Orville Parker with tubes and miscellaneous items.

Among the many displays was a fine collection of replica parts made by Keith Parry of Granada Hills, Calif.

---The Houck Awards were given to Ivan Coggeshall and Joe Pavek for outstanding documentation and preservation of radio artifacts.

Many new faces appeared on the scene including Max de Henseler (HB9RS) from Switzerland, currently on assignment at the United Nations, Gus Gironda (W2JE), well known OOTC (and QCWA) officer.

Again, a big THANKS to all the hard working committee members, the excellent speakers, to John Drake and his contest committee, and to Fred Hammond and Sid Prior for their contributions.

For a group of non-professional VOLUNTEERS...a job well done!

1980? In all probability the conference will be back at Canandaigua....

1981? AWA has an invitation to return to Dearborn...time will tell.

(Note: Two rare historical items were left at the Museum during the Conference without owner identification: A Clapp-Eastham wavemeter and a sync mechanical rectifier (motor). If the donors will identify themselves, they can be acknowledged and properly tagged.)

Please turn to page 32 for photographs of the Conference. General Auction Report will be in next issue.

VACUUM TUBE AUCTION

BRIEF SUMMARY OF 1979 CONFERENCE AUCTION

The Auction Committee felt sales were, in general, not excessive. Here are some samples (unless noted, all tubes are used with good filaments): AudioTron $42, new $50., UV-202 $15. (3) 202's $30., UV-203 fil ng $22., (3) 201's (no tip) $16., (2) UV-201's w/tip brass $23., (2) DL-5's $22., DV-3 $12. (4) Brighton blues 01's $50., 205-D $8., WD-11 (bake, orig. box) $19., (5) Arcturus blue $27., Moorhead VT $35, same open fil. $17., Spherical Aud. w/2 good fila. $200., (2) 215-A's $22., 204A $14., WE 219D $25., WW2 German 'dud' xmtg $5., (3) TB-1's new $45., VT-1 $11., VT-2 $15., 19 empty tube cartons $10., (2) WX-12's $16., (30) 01A's good $90., (2) new CX-301-A $14., UX-867 $15., 913 1"CR $15., (2) 808's $8., Meyer's Audion (open fil.) $20., CG-1162 $22., (2) Kellogg tubes $23., UV-877 orig. box $11., Sodion S-13 w/adapt. new $25., WE 211E brass (new) $10., (2) 211-D (brass) $10., (2) WWI French "Foto" (open fils.) $16., (2) French "Metal" (one good, one open) $20., (2) 3AP1 (new, boxed) $8., (4) 826's w/sockets $10., (2) VT-127A's orig. cart. $8., Songbird Type 12 (new/box) $11, Experi. magnetron $9., WE 212D $16., (7) WD12's (brass/tit) $75.

The last item is certainly a good "buy"--(7) WD12's (brass/tit) @ $75. So is the 212D ($16) and the 219D $25. These large early WE xmtg tubes are very scarce.

The auction also provided many semi-modern tubes (810, 813, 872, etc.) at give-away prices. I am suprised the French tubes (Foto/Metal) didn't sell for more and at the same time wonder why one would pay $12 for a boxed Type 12 (Songbird)..... R. A.

Return with us to those golden days of yesteryear...

EARLY RAILROAD STATIONS
EARLY RADIO STATIONS

Yes, they do have something in common, for frequently they were a one-man operation. Many low-power radio station found the owner also the licensed operator, announcer and disc jockey. In addition, he hustled advertising, determined programs and swept the floor.

And so it was with small rural railroad stations. The telegraph operator was also the ticket agent, baggage handler and he too swept the floor.

Cecil Combs, Editor for MTC has given AWA permission to print a nostalgic description of an early depot operation from his "Dots and Dashes"! Does it bring back memories?

Depots did not appear on the railroad scene in America until the 1840s. Before that time the train would usually depart from a certain street or special location, such as the City Hall, and the people purchased their tickets in various business establishments or stores, where they also waited for their trains. In some instances, even houses were used for this purpose.

The first depots did little toward the comforts of the early train riders. Usually large swinging doors were erected at each end of the wooden structure, letting in the cold winds, and the passengers shivered in their seats as they sat waiting for their trains. The waiting was often long and tedious, as the trains were usually late, and there was no telegraph to inform the waiting passengers of its whereabouts.

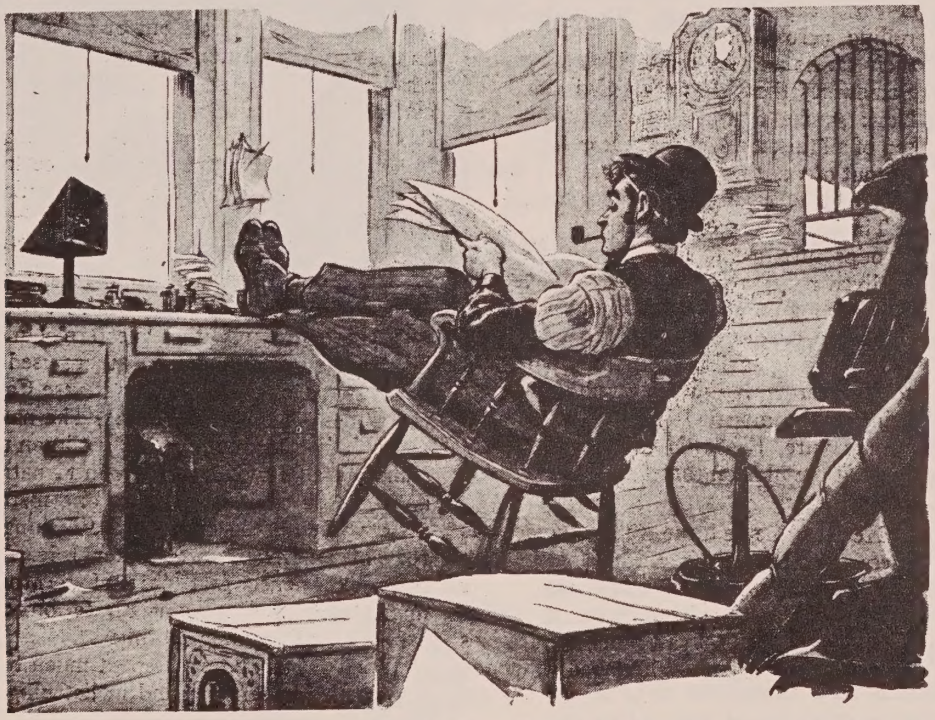
It was not long, however, before a more utilitarian building was built of wood or brick, which soon doubled as the town's social center, the hub of the town's activity. Train time was the Big Event of the day, the train bringing outside news, mail and merchandise. Some depots had an upper floor which was used for meetings, dances and other social gatherings. Very often the station was the Agent's living quarters as well. Hardly a small town was without a depot.

Today these rural depots that once dotted the tracks across this country have virtually disappeared from the scene. When the passenger train disappeared, so did the depots — abandoned, boarded up, victims of vandalism, and finally torn down — in most instances leaving only a marker post on the site where they once stood. Even the stations in the larger cities, many gigantic in size, have also almost passed into oblivion. An effort is being made today to preserve some of those still standing from total destruction.

The earliest depots did not have the name of the town on them. In 1863, after his return from a trip to the middle west, Louis A. Godey, well known publisher of Godey's Lady's Book, inquired in his publication: "Why don't all the railroad stations have their name put up for the information of passing travelers? Put up names!" Soon names appeared on the depots, the first thing you looked for as you drew near This usually would be in large letters, either white on a black background or black letters on a white background. These name signs were usually located at each end of the depot, and the name of the railroad serving the depot, or their logo, would also be

displayed above or below the name sign. There were also other exterior signs, such as an Express Company servicing that line, and projecting from a corner would be a metal Western Union sign. These were the principal exterior signs, although there would sometimes be others, such as a public telephone or a livery sign as examples. These various signs remained on the depots down through the years. Many were salvaged when the depots were torn down, and they are all being collected today.

The rural depot usually consisted of a waiting room and a ticket office; sometimes there would be an extra room for baggage. In these small one-man depots, the Station Agent did everything—switched the tracks, handled the baggage, sold tickets, and was the telegraph operator, handling both the train orders and public telegrams as well. It was also his job to keep the pot-bellied coal stove fired during the cold weather.



Inside the stuffy waiting room were several benches, where the people sat and waited for the trains. There would be a small cage at the front of the Station Agent's quarters where you purchased your ticket, with a Station Agent sign above it. Nearby was a small blue and white Western Union sign informing you that you could send telegrams or wire money orders. There would be a Western Union rack holding telegraph blanks, and a timetable rack filled with timetables, yours for the taking. A Traveler's Insurance, or other insurance company's sign would be there, urging you to procure insurance for your journey.

Inside the Agent's quarters was a table which held his telegraph instruments. The clicking of his telegraph key and sounder could always be heard in the background as you entered the depot. The office would be cluttered with the many tools of his trade—several clipboards holding train orders and waybills, telephones, a train order hoop, ticket box, rate books, The Official Railway Guide, rubber stamps for use on the tickets, a wax sealer, and much, much more, along with his lantern and flags.

Today, the depot, having served its purpose as the most important place in the community, has become a part of American history.

A.W.A. ON THE AIR

Send all old time transmitter construction and operation news to: W2BGN
Ken Gardner
42 Oakdale Ave. S.
New Hartford, N.Y. 13413

BUILD A 1934 TRANSMITTER

The last OT Transmitting Contest aroused much interest which in turn brought several requests for oldtime transmitter circuits. Early self excited transmitters (Hartley, TPTG) are not recommended for present day operation unless very low power and in the hands of experienced operators who have modern monitoring equipment

To qualify for OT AWA operation the circuit and tubes must be 1939 or earlier. The easiest approach of course is to build a single tube transmitter using a 6L6 as xtal oscillator. To increase power, add 807, 811 or 812 amplifier and one is in business with a 1937-1939 vintage set. But how about something earlier?

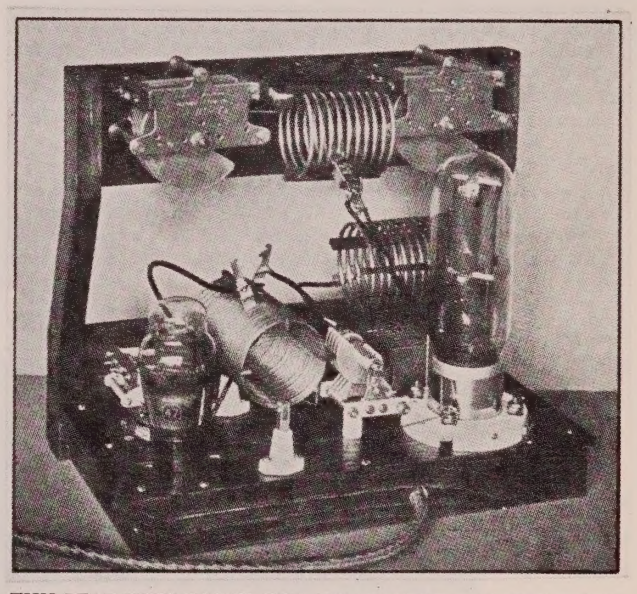
Thumbing through a pile of 1930-35 QSTs we found a circuit that may be of interest to members: a transmitter that can fit anywhere between 1932 to 1935-- depending on vintage parts and tubes used. The set is fully described by AWA member George Grammer, W1DF in the October, 1935 issue of QST. Following is a brief description and a few comments.

First, note the set is designed for 20 and 40 meter operation-- a 47 tube as 40 meter xtal oacillator with a 203-A as PA on 40 or doubler on 20. The same tank coils are used on BOTH bands (the PA coil tapped for higher frequency operation). A UX-210, 211 or other early tubes may be substituted for the 203-A by changing filament plate and bias voltages as required.

Next, in all probability most members will want to change the coils for 40 and 80 meter operation. In doing so, it will be necessary to increase the capacity of plate condensers C_1 and C_2.

And lastly, the new design will obviously have to include a modern antenna coupling system.

It is advisable to follow the circuit as shown since W1DF did much experimenting to come up with a workable transmitter. Relatively new amateurs building this transmitter are advised to read the original QST article. An earlier version with 210 buffer can be found in Feb. '34 QST.



THIS REAR VIEW SHOWS THE ARRANGEMENT OF PARTS ON THE BASE AND PANELS

THE FINAL CIRCUIT

For the benefit of those who may wish to build an outfit along the same lines, the complete circuit diagram as finally worked out is shown in Fig. 2. Parallel plate feed is used on both tubes to keep the high voltage off the coils, which naturally have to be handled when taps are changed. The antenna tuning circuit, $C_3L_3C_4$, is arranged for series tuning of Zepp feeders, the coil L_3 being proportioned so that the condensers will hit resonance on both 7 and 14 mc. with feeders approximately 45 feet long.

The circuit shown in Fig. 2 is arranged so that bias for the amplifier can be obtained from a voltage divider across the plate supply for the oscillator. The condenser C_{11} serves both as an insulating condenser between the two filament circuits and as a by-pass for the amplifier grid bias. Those not familiar with the connections used in this type of biasing will find the details of the arrangement in Fig. 3. The proper connections for keying and for filament returns will be found in Fig. 2.

The transmitter illustrated here is a case in point. The job on hand was that of constructing a transmitter relatively simple and compact—since it had to fit into a space of limited dimensions—and having a moderate amount of power output for c.w. work on 7 and 14 megacycles. Quick and convenient band-changing was considered to be an especially desirable feature, indicating the use of tapped coils. In view of the fact that a miscellaneous collection of parts already on hand had to be used, the available space did not permit using more than two stages, with antenna-tuning equipment.

KEYING

While the circuit changes were being made, another problem, that of keying, came into the picture. It had been intended originally to key the center-tap of the amplifier, leaving the oscillator to run continuously. A trial of this system did not give very pleasing results, however. Keying the amplifier center-tap opens and closes its grid circuit, with the result that the load on the oscillator changes with keying. This in turn causes the oscillator frequency to shift so that the frequency under key-down conditions differs from that under key-up conditions by a kilocycle

[Cont. on next page]

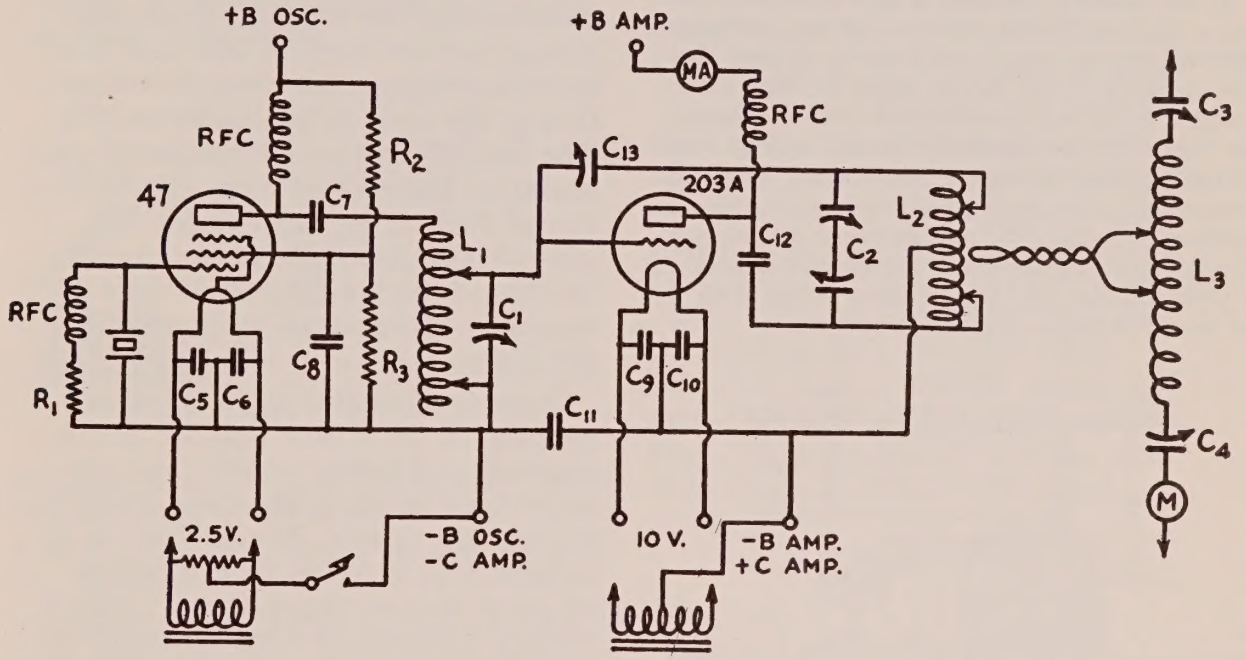


FIG. 2—THE COMPLETE CIRCUIT DIAGRAM

This is equivalent to the skeleton circuit "C" of Fig. 1.

C_1—*100-μμfd, variable condenser, receiving type.*

C_2—*Split-stator condenser, double-spaced, 100 μμfd. each section; total capacity, 50 μμfd.*

C_3, C_4—*350-μμfd. variables, receiving type.*

C_5, C_6—*0.002-μμfd. fixed mica condensers.*

C_7—*100-μμfd. fixed mica condenser.*

C_8—*0.002-μfd. fixed mica condenser.*

C_9, C_{10}—*0.005-μfd. fixed mica condensers.*

C_{11}—*0.002-μfd. fixed mica condenser.*

C_{12}—*500-μμfd. fixed mica condenser, 5000-volt rating.*

C_{13}—*25-μμfd. variable, transmitting type.*

R_1—*5000 ohms, non-inductive, 2-watt.*

R_2—*50,000 ohms, 2-watt.*

R_3—*20,000 ohms, 2-watt.*

RFC—*Short-wave sectional-wound chokes.*

L_1—*30 turns No. 14 bare wire, coil diameter 2¼ inches, turns spaced ⅛ inch center-to-center.*

L_2—*16 turns ⅛-inch copper tubing, coil diameter 2¾ inches, turns spaced ¼ inch center-to-center.*

L_3—*10 turns ⅛-inch copper tubing, coil diameter 2¼ inches, turns spaced ¼ inch center-to-center.*

The turn coupled to L_2 is inside L_2 at its center, and rests on the bakelite strips.

MA—*0-300 d.c. milliammeter.*

M—*0-2.5 r.f. ammeter.*

The resistor shown across the 2.5-volt filament transformer may be the usual 20-ohm unit with center-tap. If the transformer winding is center-tapped the resistor will not be needed.

or two. Thus the main wave and back wave are on two different frequencies, and although this may do no harm since the back-wave should not get through the neutralized amplifier, yet it does represent an undesirable condition. Furthermore, since the installation of some sort of thump filter usually is necessary with center-tap keying, the time lag introduced by such a filter easily could cause a chirp. The alternative of keying the negative amplifier plate return alone, thus maintaining a fairly constant load on the oscillator, was discarded because of its still greater tendency toward thumps and sparking at the key contacts.

It was therefore decided to give oscillator keying a trial, so the key was put in the oscillator filament center-tap. A quick check showed that the oscillator would follow rapid keying readily enough, but a very pronounced chirp developed. At this time the oscillator screen voltage was being supplied through a 50,000-ohm dropping resistor. The scheme of using a voltage divider, as outlined in April *QST*,[3] was therefore introduced; the chirps disappeared and keying was no longer a problem. Keying the oscillator brings with it all the advantages of break-in operation.

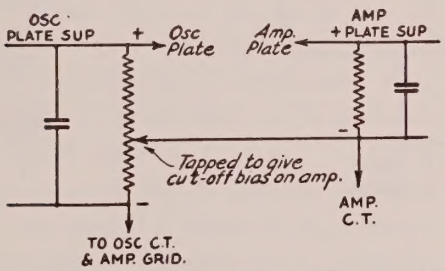
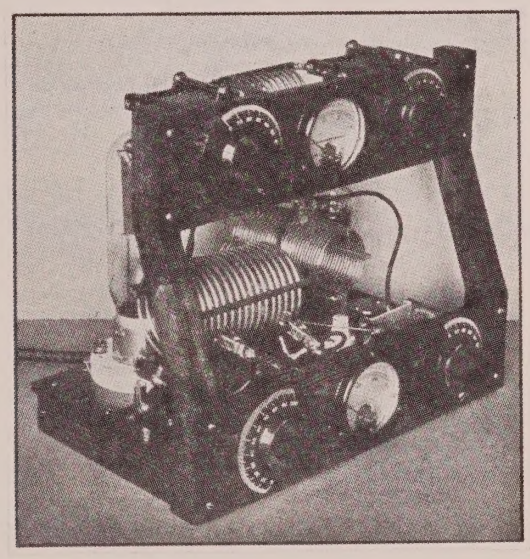


FIG. 3—METHOD OF OBTAINING AMPLIFIER BIAS FROM OSCILLATOR PLATE SUPPLY

When this method of obtaining bias is used, there must be no direct connection between the negative terminals of the two power supplies nor between the filament transformers.



A FRONT VIEW OF THE TRANSMITTER DISCUSSED IN THE TEXT

Need components and you live near Rochester ? Parts and tubes are free to AWA members at the old Museum.

Case history.

MORE ON 60 CYCLES

So you think our 60 cycle electrical system was originally determined by our 60 seconds/minutes time standard? Not exactly.

When Westinghouse and others were determining the frequency for alternating current back in 1889 and 1890, several frequencies were developed. One of the first to be used was 133. The choice of this odd frequency was based on their generating unit which ran at 2000 rpm, had 8 poles and gave 16,000 alternations per minute or 133 1/3 cycles (16,000 divided by complete alternation or 60 plus 60 = 133 1/3).

Other frequencies were tried depending on the power source: steam engines and water power. The cylinder type steam engine ran at a relatively low speed. At one time some thought was given to 16 2/3 cycles since an 8-pole generator at a lesser driving speed gave 2000 alternations or 16 2/3 cycles.

The lower frequencies worked great for large low rpm electric motors but were impractical for lighting purposes because of the pronounced lamp flicker.

A strong contender and one used for many years, particularly in heavy industry , was 25 cycles. This frequency originated at the Niagara Falls hydro power plant in the 1890's. After several compromises they settled on a 12 pole, 250 rpm machine which gave 3000 alternations or 25 cycles. It is only in recent years that 25 cycles has been phased out in most industry.

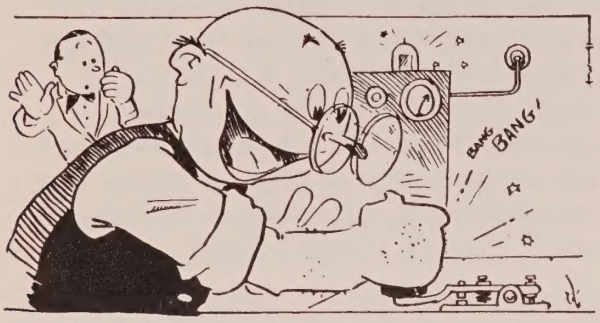
High speed turbo generators did the trick for soon six-pole, 1800 rpm generators became standard giving 60 cycles which was a compromise for drive speed and machine design.

So you see, our 60 cycle system was not necessarily decided by 'time' but by source of motor speed and generator design. R. Allen

OLD TIME TRANSMITTER CONTEST

WHAT IS an old time transmitter or receiver? See description on page 24 of theDec. '78 Old Timers Bulletin.

OBJECTIVE: QSO the greatest number of AWA members. When calling, use: "AWA, AWA de W2AN" as an example. On contact, exchange year of equipment such as a 1936 transmitter would be "TX 36" and a 1930 receiver would be "RX30". If modern equipment is used, just send "MODERN".



"TO POUND BRASS HALF THE NIGHT"

DATES: Wed., Jan. 16, 2300Z to Thurs. Jan. 17, 2300 Z. ----and----

Thurs., Jan. 24., 2300Z to Fri., Jan. 25, 2300Z.

FREQUENCIES: 3580 to 3590 Kh. and 7040 and 14084 Kh. plus or minus Qrm. Concentrate 20 and 40 on the hour. Stay off W1AW!

SCORING POINTS:

1 for QSO with 1940 or later station.
2 " " " 1939 or earlier TX or RX
3 " " " 1939 or earlier BOTH TX and RX.

POINT MULTIPLIERS:

2 for stn. using 1939 or earlier TX
2 for stn. using 1939 or earlier RX
4 for stn. using 1939 or earlier TX & RX

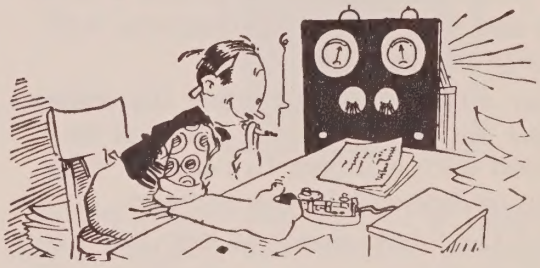
RULES: A station will be scored only once on each band. No crossband contacts. Non-member contacts will not count. Stations not submitting logs will not count.

SEND copies of Log to:
Ken Gardner, W2BGN
42 Oakdale Ave., So.
New Hartford, N. Y. 13413
BEFORE March 1st, 1980

REMEMBER the DATE:
JAN. 16-17 and JAN. 24-25

BIBLIOGRAPHY OF OT XMTRS & RCVRS

"Ham Radio Horizons", Mar. '77, page 25 (describes 45 tube in Hartley circuit)
"Ham Radio", Apr. '76, page 34 (describes gear from 1929-1941 by Orr.
"CQ", Apr. 1978, page 38 (1938 xmtr)
"CQ", Feb. '79, page 56 (1935 xmtr)
"CQ", Jan. '73, page 38 (210 TNT xmtr)
Articles in Old Timers Bulletin:
June '77, p. 25... W7KE 1928 Mopa
Dec. '76, p. 11.. W7JY 1939 TX esRX also W1FAT station
Sept. '76, p. 20.. W1BVL Ot xmtr.
Mar. '76, p. 11... W5DPM & K4JO TX.
Dec. '75, p. 22.. W1DM 1928 receiver
Mar. '75, p. 29.. Xtal control xmtr.
Dec. '74, p. 21.. Hartley ckt. & WØTRF
Sept. '74, p. 23.. VE3BDV 1930 TNT
June '74, p. 24.. The TNT xmtr
Mar. '74, p. 16,. W1NTE regen. RX
Sept. '73, p. 6... W1DM 1925 xmtr
Sept. '72, p. 2.. W2BJI Hartley xmtr
June '71, p. 3.. W2LV 1931 xmtr.



LOG SHEETS:

Previous participants will receive Log Sheet in the mail in early January. New participants may obtain a copy by writing to Ken Gardner, W2BGN.

MODERN GEAR:

Although the objective is to use old receivers and transmitters, members without such equipment are encourage to join in the fun with their Kenwoods, Drakes and other modern sets.

Neither must you be a speed king to participate. Many phone men slide down and plug away at 10 - 12 WPM for the fun. Don't worry, the high speed boys always slow down because they want your contact!

If you miss the first week.. be sure and get in there the second week.. you'll be like a DX station.. everyone will want to work you!

RESTORING OLD EQUIPMENT

How did you SOLVE a problem when re-storing a receiver? Drop us a note telling how you did it.

REPAIRING HOLES IN METAL PANELS

by Bill Orr, W6SAI

Holes in metal, crackle-finished panels may be repaired to almost invisible condition by this simple process.

First, the hole is backed by a thin metal plate epoxied to the reverse side of the panel. Once the epoxy has dried, the hole is then carefully filled with General Electric Black silicone "Auto Seal", available at most automotive distributors. A 3 oz. tube will repair a hundred holes!

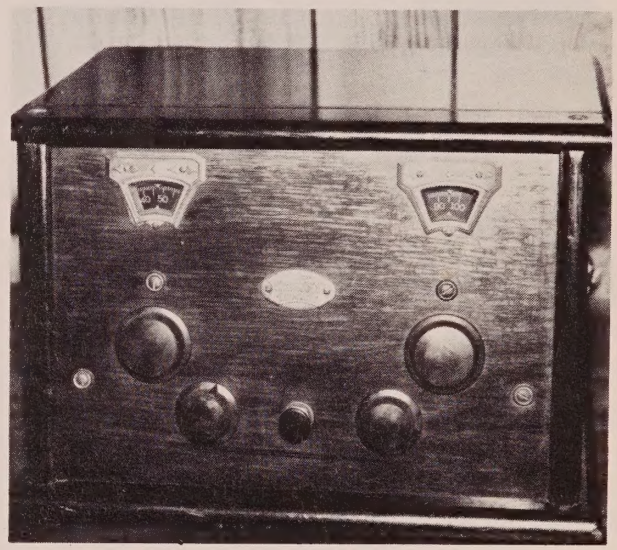
The "Auto Seal" is squeezed into the hole (a drop or two will fill a 1/2-inch hole) and press down to conform with the edge of the panel.

After a few minutes, when the material has started to harden, it may be pressed with a finger to remove any lumps or hollows in the surface.

Once the "Auto Seal" is dry, the whole panel should be given a rub-down with a cloth impregnated with a few drops of 3-in-1 oil, or mineral oil. The result? The hole is almost invisible, especially to the bifocal crowd!

CROSLEY LOWAVE

Jack Bacon (St. Louis Pk., Minn.) is the owner of a rare "Crosley Lowave" set. Note we say 'set' and not receiver since we feel it could be a shortwave converter. It uses (3) Type 230 tubes and has sockets for two sets of plug-in coils. Any member have information on this set ? Year? Range? Use?



CROSLEY LOWAVE SET

The Federal Telegraph Company

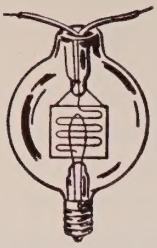
Thorn Mayes' Monograph on the Federal Telegraph Company brought many letters, particularly from old time commercial operators who had used the Federal arc transmitter. One of particular interest was from Bill Smith, N9TT quote:

"--- The picture of the 500 KW arc converter on page 12 looked very familiar. It was one of these magnets which was used as the foundation for E.O. Lawrence's 27-inch, 8-MEV cyclotron built in the early thirties.

A picture appears on page 80 of "Accelerators--Machines of Nuclear Physics" by Robert R. Wilson and Raphael Littauer, Anchor Books, Doubleday & Co., NYC, 1960.

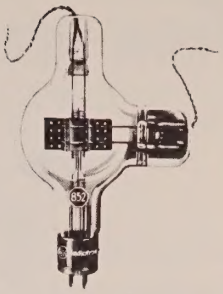
Amplifying information on page 99 states, "...the electromagnet seemed huge, it weighed 85 tons and had originally been slated for use in China as a Poulsen-arc generator of radio waves."

Although not the first machine to split the atom, it was an early and important contender in the thirties, and similar devices separated the U235 isotope for the first atomic bomb....."



THE TUBE COLLECTOR

Conducted by Gerald Tyne



QUE: I understand that Vance Phillips recently donated his highly prized LRS Relay [tube] to the AWA Museum. According to your SAGA, the tube could have been made in Germany sometime between 1913 to 1915. I am told there are only three others in the country. Why should this tube be so rare?

ANS: It was not a very successful tube and hence not many were made. It was noisy and erratic. Patented in 1912, it was used in telephone repeater circuits as well as wireless.

QUE: How did this tube compare to the deForest Audion as a detector?

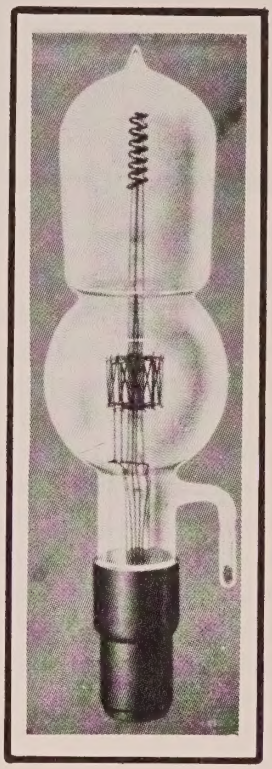
ANS: These 'relays' were considered much inferior to the American Audion for general receiving purposes. They were less sensitive to the ratio of 5 to 8, less stable, and were more affected by plate voltage changes (such as commutator hum) and possessed no advantage except possibly greater output power.

QUE: Could the tube be used in a regenerative [feedback] circuit?

ANS: Any tube which amplifies can be used in a regenerative circuit.

QUE: Is it true a German vessel interned at the beginning of WWI used LRS tubes in its receiving equipment?

ANS: Yes, the Vaterland, which was later re-named the USS Leviathan. When the ship was interned at the beginning of WWI, a study was made of the radio equipment, August-November 1917 by the US Navy under the supervision of A.S. VanDyck. The report indicates there were fourteen LRS tubes on the ship. Following is a quote from the engineer's evaluation of the tubes:



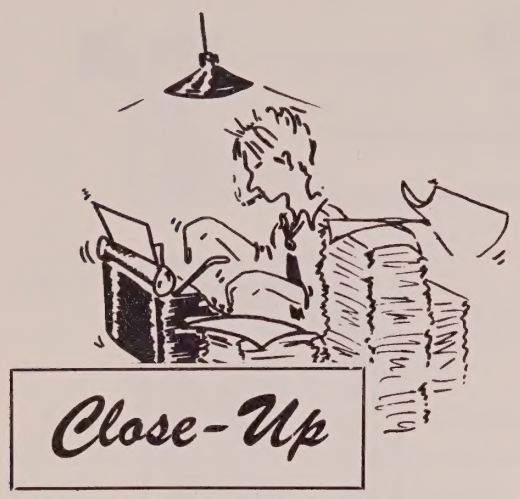
An early LRS Relay tube

"These relays are subject to fatigue. About one hour use found it necessary to increase the plate voltage if the tube stopped oscillating. About eight hours use they will not oscillate at all, even with 525 volts on the plate, at least with maximum inductive back coupling supplied to the apparatus.

"After 10 hours inactivity, the fatigue completely disappears but again appears on extended use. This effect was found on all bulbs tested." After a few days use the inner walls of the glass container near the plate becomes coated with heavy black deposit. About half of the bulbs had been coated with an opaque paint for reasons unknown. The filaments are oxide coated but need bright red color temperature to operate."

(Ed. note- VancePhillip's LRS relay has an opaque coating which would indicate it may have been removed from the "Vaterland".)

FROM HEADQUARTERS



THE 2B7 TUBE

Ken Gardner, W2BGN, has an old HRO receiver which had a defunct 2B7 tube. Not finding one in the junk-box, he decided to place an ad in the OTB. Results: 16 replies. Price range: free to $10. Need I say which one he took?

On the subject of OTB ads, the "For Sale" section seems to pay off. Several members have written they have been swamped with "buyers" with as many as 100 queries per ad. Where else can one get such results like this for only $1.25 ? (yes, 5 bucks dues divided by 4 issues)...

PEOPLE THAT I HATE----

--are those that remove meters from early equipment. AWA has a Kennedy 110 (missing voltmeter, otherwise mint), an early portable Coast Guard transmitter (2 meters missing, otherwise mint), and a Paragon 2-5-U transmitter with antenna ammeter gone. To properly restore these sets for display, original type meters are necessary....

THE "R" OUT OF TRIRDYNE

On page 28 of the Sept. OTB is featured a short description of the Crosley Trirdyne receiver. Somehow the second "R" came off leaving TRI DYNE. Maybe the pasted letter fell off or the proof-reader felt the spelling was incorrect. Personally, I feel "Trirdyne" is a tongue-twister and the unintentional space deserves to be there...

SHORTWAVE RECEIVER

J. Puett (Dallas, Tex.) is the owner of a seldom seen WWI SE-1012 three tube receiver made at the Washington Navy Yard in 1918. The set is unique in that it is called a "shortwave" receiver since it tunes down to 50 meters! This is most unusual for few receivers at that time went below 200 meters.. What were they using for a transmitter to hit this low wavelength?

POOR ATTENDANCE

I just read that only 180 registered at the Annual QCWA National Convention -- out of a membership of 10,000! What went wrong? Could it have been the big city location of Chicago ? AWA Conference attracts 600 from a 2200 membership in little Canandaigua.... Canandaigua, by the way, is a Seneca Indian name. Can you pronounce it?

[Continued on next page]

A PROFESSIONAL COLLECTION

LARGE EXHIBIT OF MODERN RADIO TUBES

What is believed to be the largest collection of significant radio tubes in the world went on display Sept. 9 at the dedication of the new engineering building at Manhattan College, Riverdale (Bronx) New York City.

The display consists of 25 large panels with 25 to be added at a later date making a total of 50.

The collection represents four years of hard work by Bro. Patrick Dowd, Science Department, Paramus Catholic High School, Paramus, New Jersey. The tubes were collected from numerous sources including AWA, Gerald Tyne, Howard Schrader, Bill Orr, RCA/Harrison and several RCA officials.

A description with pictures of the panels will appear in a future Bulletin. Bro. Pat will be remembered for his excellent "papers" at AWA Conferences and his studious report on "Vacuum Tube Identification".

The college facilities are open daily making this remarkable display available to the public at all times.

THE A.W.A. PRESIDENT'S AWARD

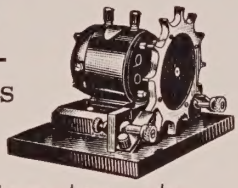
In an organization such as the A. W. A. a member often makes unusual and significant contributions of service which should be recognized. Such service may be performed in a rather quiet manner. However, it adds to the smooth operation of our organization and contributes to A. W. A.'s success and reputation.

It is appropriate that public recognition be made of this person's contribution so that other members know of the service which he is honored, a suitably engraved plaque, known as the President's Award, will be presented to the person selected for outstanding service to the Antique Wireless Association.

1979 Recipient of the President's Award
DON RAY
WA2PKS
for outstanding service to A.W.A.

Don has printed the OTB for the past 20 years. He has taken old faded pictures and made them look new, erased smudge marks left by your editor, corrected errors and in general made the OTB the great publication it is. Congratulations to Don and his wife Joyce. A belated recognition.

Spark Transmission



Phil Stoddart, W1NXE has set up shop to machine rotary spark wheels out of 1/2" aluminum plate. Send him your specs: # teeth, shaft diameter, etc.

Phil Stoddart, W1NXE
41 Jarvis Circle
Needham, Mass. 02192

PUETT ELECTRONICS

P.O. BOX 28572 DALLAS TEXAS 75228

Collectors interested in purchasing either software (books, newsletters) or hardware (tubes, parts, etc.) are advised to write Puett Electronics for their latest sales listing. J.W.F. Puett is one of the very few who caters to the radio collector on a commercial basis. He prints a wide range of publications including a newsletter and book covering classic receivers.

Close-Up

[Cont. From p. 16]

"RADIO" RECORD

Walt Smartt sent AWA a cassette tape of an old Edison record made in the early 20's titled "RADIO". With banjo accompanient, a vocalist gives his version of what a radio program was like at the time..which wasn't very flattering...a lot of deliberate hissing and static. If you recall, Edison wasn't much in favor of radio since it had cut into his phonograph business. The reproduction is excellent (very clean without scratches) which is a tribute to Edison's vertical cut thick platters and Walt's playback equipment.

CONVERTING TO 110 VOLTS DC

A letter from Henry Kuhn (W8ERG) almost deserves an OTB article for he tells about converting 110 volt DC sets (not AC/DC sets) to AC in the mid 30's. He worked for Tri Boro Radio Co. at 125th and Lexington (NYC) where a group of semi-skilled technicians would strip a chassis of its old 110 volt DC power supply and quickly install a 110 volt AC source... They would do this without schematics in record time..in fact, they would race one another to see which could do it the fastest! Occasionally a 32 volt DC (Delco) type set would come in... which would pose a little more difficult problem (and cost)...a most interesting letter...

NEW ZEALAND

John Stokes (Auckland, N. Z.) recently reminded me that January, 1980 will be my 20th year as Editor of the OTB. Time sure flies! John has been an AWA member for 16 years and is a well known tube historian. He, like Fin Stewart (Australia), is writing a book on the subject. He is concentrating on the period between 1930 and 1940. This book (like Fin's on Phillip Tubes) will be of great value to the radio collector and historian. John will emphasize the technical detail and development of the tubes...

[Cont. on next page]

Close-Up

[Cont. from p.17]

EARLY MARCONI STATION

One of the first radio stations in the U.S. was built in 1899 by Marconi at Twin Lights, Highland, N. J. The station was erected to report the results of the nearby 1899 American Cup Race to the old New York Herald...thus scooping the other newspapers. The location is now marked with a museum (Twin Lights Museum). I just read in the SOWP Pickerill Chapter where Jeff Azoy, W2XZ, donated an 1899 replica transmitter and receiver to the museum. Should be worth seeing.....

MEMBERSHIP RENEWAL

We've made note before-- and will do so again. If you don't renew your membership on time...you have to fill in a NEW membership application form and start over again. Let's save our Treasurer time and the Association money (a new IBM card has to be punched) by renewing promptly.

CONSOLES NOW MARKETABLE

A year ago large console radios were "dogs"...you almost had to give them away. Not so now. Recent sales indicate a new interest among collectors--particularly the classics: highboys of late 20's and early 30's and of course the Scotts. There is also a demand for Philco and Stromberg-Carlson sets. The collector who has room to store some of these gems has it made..By the way...they don't sound bad either. There is a 1932 Scott in the AWA Museum that sounds better than most modern sets...a pair of 245's in pushpull parallel..terrific bass response.....

SS TITANIC and CARPATHIA

Like others, I too have wondered what happened to the SS Carpathia, the ship that came to the Titanic's distress call in April, 1912. A recent issue of the THS Journal, The Titanic Commutator, tells us:

"The ship was in a WWI convoy July 17th, 1918. She was traveling in the middle of three lines of ships when a German submarine picked her out with uncanny accuaracy. Two torpedos crashed into her within a half-minute, one striking the port side and a second in the engine room. The ship sank in about 2 1/2 hours. Other than for three trimmers and two fireman who were killed, all 218 members of the crew and 57 passengers were rescued and were taken safely to Liverpool."

TUCKERTON

The old German/RCA station WSC at Tuckerton, N. J. (demolished in the 50's) has gotten alot of play recently. Former manager Dan Flomerfelt (W2BFV) had a nice historical writeup in a local newspaper and Thorn Mayes (W6AX) gave an excellent talk on the subject at the AWA NewEngland Meet.....

[Continued on page 21]

A Brief History

OTB COVER & PHILCO

The cover of the Sept. OTB showing a meeting which resulted in the design of a new receiver (Pilot Super-Wasp) brought a letter from Harold Wheeler, Chief Scientist of the Hazeltine Corp. Quote from his letter:

"The cover photo remined me of another momentous conference also 50 years ago in the middle of 1929. We did not take a picture because we could not have anticipated the far reaching consequences.

"The conference as I remember was in the Hazeltine Laboratory which was located at 333 West 52 Street, New York City. Our Hazeltine group was working with Philco on the design of their new line in their second year of manufacturing broadcast receivers.

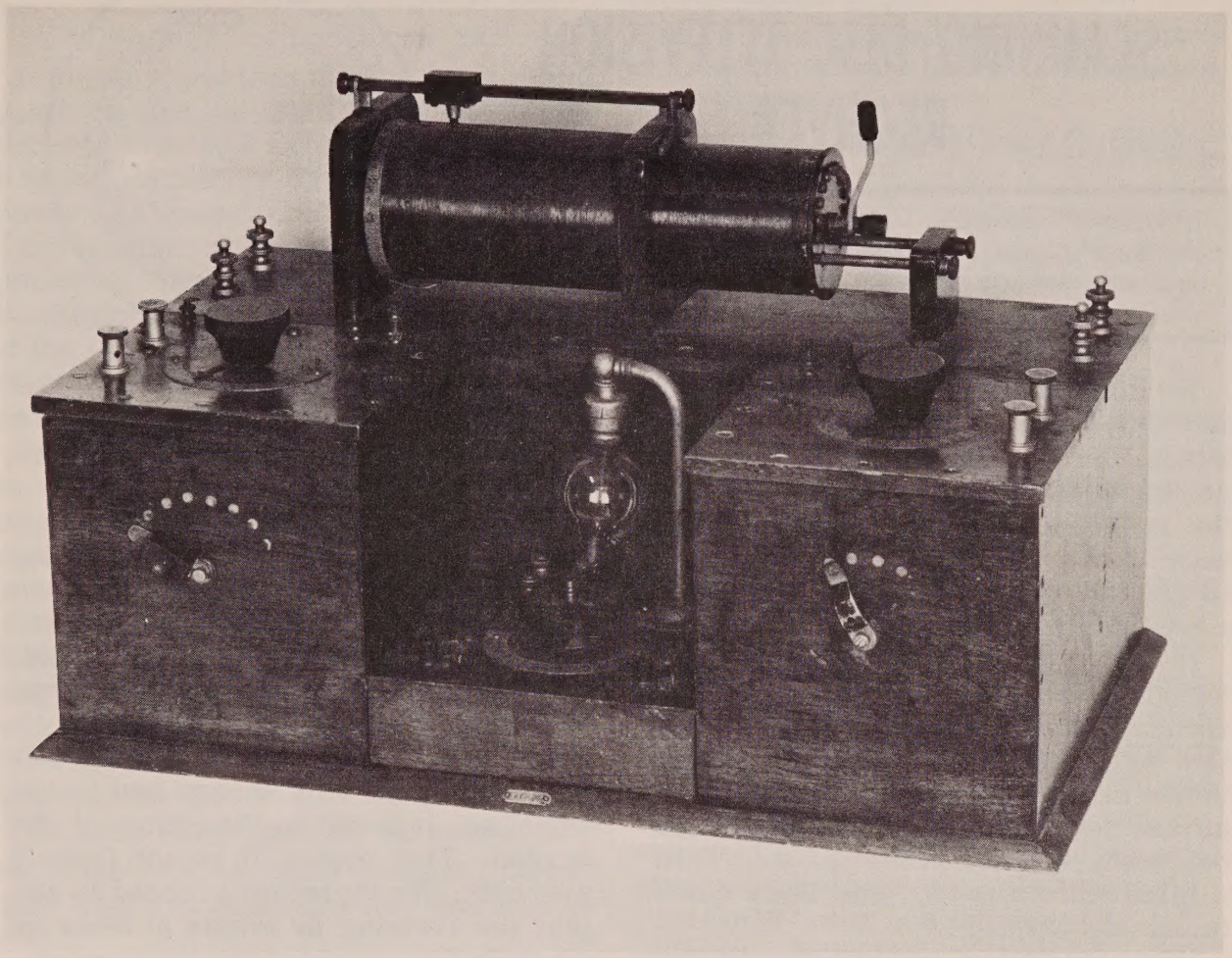
"In that meeting, Philco was represented by Bill Grimditch and perhaps others, while our group was represented by Bill MacDonald, myself and others

"On our advice, Philco decided to consider one model which would include my most recent development, the diode AVC and linear detector.

"As a result, I designed the receiver which became the PHILCO 95 and pioneered in the use of that circuit. The only survivors of that design are Dave Earnshaw from Philco and myself from Hazeltine."

Harold A. Wheeler

THIS MONTH'S BROADCAST RECEIVER



1913 J. F. ARNOLD RECEIVER [Photo by Alan Douglas]

This beautiful and rare set was recently donated to the AWA Museum by Fred Penard of Norwood, Mass. It has an interesting history. Originally it was used commercially to receive time signals from the Naval Station NAA at Arlington, Virginia. Let us have Fred tell the story from here on.

"My father, Asst. Supt. Engineering of Boston Electric, heard the set was to be sold for junk. This was in 1919 when I was 13 years old.

"Knowing my interest in wireless, he purchased it for $5. and gave it to me. The only stations I could hear were WGI (Amrad at nearby Medford Hillside) and NAD (the Boston Navy Yard). This was done with a crystal detector since I didn't have a tube.

Several years later I saw a deForest spherical audion tube in the window of a second-hand store. The shopkeeper said it belonged to a railroad man who stopped in occasionally. He would check the price.

"I eventually found out he would give me the audion tube for two 201-A tubes. I purchased the two tubes for $2.50 each and made the swap. I've had the set now for 60 years."

There is no identification on the receiver; however, by removing the upper deck cover one can find heavily stamped in the wood:

6 - 10 -13 J. F. A.

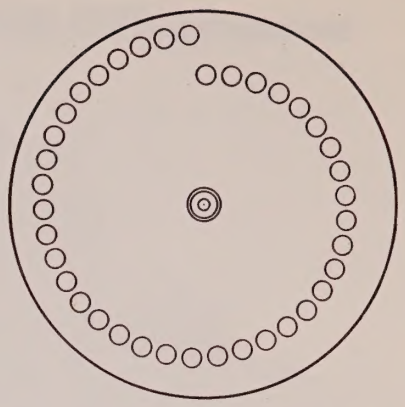
Ads describing this J. F. Arnold receiver can be found in early wireless publications.

SMITHSONIAN INSTITUTION

"EDISON: Lighting a Revolution" is a special exhibit now on display at the Museum of Technology.

This exhibition is a part of the International "Centennial of Light" celebration sponsored by the Thomas Alva Edison Foundation to commemorate the 100th Anniversary of Edison's invention of the incandescent electric light bulb.

HOW TO TUNE IN A 1930 SCANNING DISC TELEVISION RECEIVER



The year is 1930. You have your Jenkins or Baird scanning disc televisor set up and are about to receive your first TV picture. Follow these instructions.

We turn on the television receiver and dial to the desired station's wavelength. As soon as the television receiver tubes warm up the neon lamp of the radiovisor begins to glow. The neon lamp of the radiovisor glows bright and dim as we look at it through a tiny hole in the scanning disc.

Now we snap on the radiovisor switch. The motor starts revolving the scanning disc clockwise. The hole of the light moves across the field of vision as we view it through the magnifying lens. Then another line right below where the first one passed. Then a third and fourth. The lines come faster and faster.

When the bottom one has passed, the top one starts again. The disc gains speed, the lines come in rapid succession, it looks as though all the lines were there at once; the single dot of the light has taken on the aspect of a solid mass of light about four inches square. As the scanning disc approaches the correct speed the lights and shadows take form and we see the image of the object which is being "televised."

Now that we are getting the program, let us see if we cannot improve the reception. The station is tuned in perfectly. We adjust the tuning knob of the television receiver, keeping our eyes on the picture. Finally we have it as sharp as possible. But what's that? The picture slips over to the right, seems to slant over and almost go off the screen entirely. There, it does go off to the right and reappears again on the left.

That is a sign that the scanning disc of the receiver is not in perfect synchronism with that of the transmitter. The receiving disc is going too fast, it is gaining on the image. We turn the little rheostat on the radiovisor, the disc slows down, the picture no longer moves across the screen.

But now something else is happening. The top of the picture is swinging back and forth while the bottom part stays still. We let the radiovisor run a minute or two without further adjustments. It is hunting. Soon the picture stops wobbling.

But now, though the picture is not moving across the screen and is not wobbling, it is not in the center of the screen. That means it is not framed properly. We therefore proceed to adjust the framing by means of lever or other device provided for the purpose.

If you tune your television receiver without reference to a station chart you may get a muddled pattern, think you have a television station and wonder why the pictures are not clear. Perhaps you are picking up short wave sound signals. These signals, though visible on the radiovisor, naturally form no recognizable picture.

Or perhaps you have a television station, but one operating on an off-standard number of lines or scanning disc speed, such as the 48 line, 15 frames per second picture of which is different. These, of course, cannot be tuned in properly with a standard 60 line 20 frames per second set.

Again, indistinguishable patterns of black and white might mean a station too far distant or too weak to properly motivate the neon lamp. Finally, it might mean that the scanner is not in step. By snapping the radiovisor motor switch on and off several times the disc may be placed in step, and held there at the right speed by means of the rheostat. *(Cont. on next page)*

Close-Up

[Cont. from p.18]

FLEA MARKET -- GET WITH IT!

Every now and then someone complains about the flea market at AWA meets and radio hamfests. I have been involved with the Rochester Hamfest for 27 years either as General Chairman or Program Chairman so can speak with some experience on the subject. I first noticed the beginning of flea market activity in the late 50's. By 1965 it was part of all large hamfests (excluding large city conventions held in a hotel).

Little by little programming became secondary... most attendees came for the flea market. I could have had Marconi walking a tight-rope in scarlet breeches and the crowd would still choose the flea market and display area. RARA attendance in the past few years has been running between 6000 to 8000 with only 400 at the banquet and less at the meetings. We got the message: the flea market was an absolute must.

The same holds true for all historical radio meets from coast-to-cost: members want and demand a flea market. Why ?

--it provides an opportunity for the collector to see what he is buying.

--it eliminates costly shipping charges on purchased items.

--it eliminates possible damage to purchased items that otherwise would have been shipped.

--it provides an opportunity to "dicker" on prices.

--the flea market provides an opportunity for the collector to sell his duplicates, etc. on the spot without having to advertise.

AWA, along with numerous other organizations, recognizes the need and value of a flea market at all events and will promote same. Anyone who feels differently had better start twiddling their cat's whisker.....

BUS TO CONFERENCE

Jack Nelson writes that members of the Antique Radio Collectors of Schenectady plan to charter a bus for attend-next year's Conference. Jack just pick-up an early HRO for $5 at a nearby garage sale... among some old chairs and clothes. Speaking of old gear I understand several California members, who attended the Conference shipped their purchases home in a moving van.. that is the way to do it!

[Continued on next page]

Heavy black horizontal lines in the picture usually indicate that one or more of the tiny holes in the disc are closed, preventing light from coming through. Dirt or dust may be removed from the holes with a thin sliver of wood.

Sometimes tuning can be facilitated by attaching a loud speaker instead of the neon lamp to the receiver while tuning. For the ear can tune in to maximum clarity and volume better than the eye.

The television station will be recognized by its high buzz saw note. This note, having been tuned in, detach the loud speaker, replace the neon lamp leads, start the radiovisor motor, and the picture will be received.

Do not expect perfect detail in the pictures. They are still crude. But progress is so rapid that week to week improvement will be discernible and the thrill of snatching pictures out of the air will outweigh any lack of detail.

MARKETPLACE

BUYING USED BOOKS?

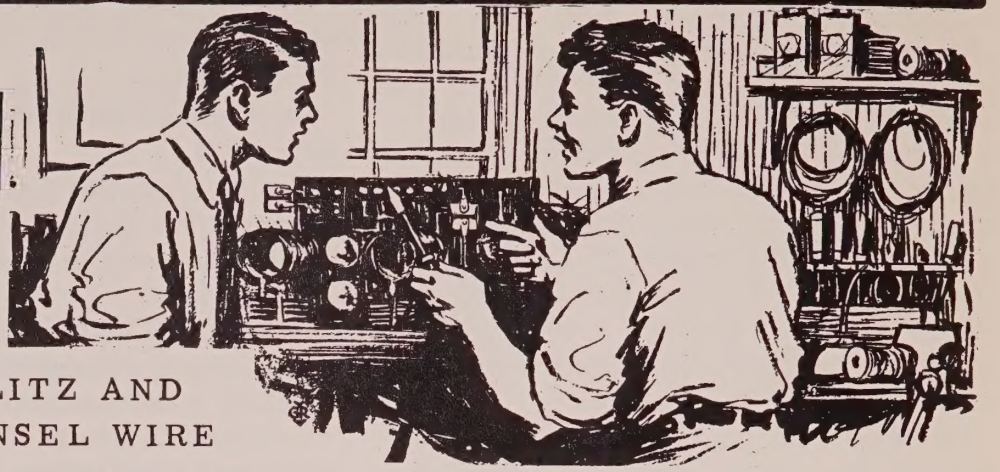
Ron McNeill, VE5RX writes that he has had considerable trouble with a questionable used book dealer in Devon, Conn., whereas A. D. Santamasso in New Hampshire delivers all books ordered promptly. Another reliable used book dealer is Walt's Emporium in Grand Prairie, Texas.

Again, several members have advised us of a very questionable and un-ethical dealer who operates from several mail addresses (Forest Hills, Flushing, Rego Park) but ALWAYS the same street and Zip# -- 11374. AWA does NOT have any members with a 11374 Zip Code! This same person has also solicited business from Canal St, NYC (10013) and Church St. Stat. (10014).

Take care.. be SURE you know who you are dealing with.....

WITH THE COLLECTORS

PROBLEM SOLVERS



SOLDERING LITZ AND TINSEL WIRE

Several letters were received as the result of a query on how to solder tinsel wire (headphone cords) and litz wire (loop antennas). Emil Schneider and Henry Harder gave similar descriptions. Following is their suggested method.

First, Litz wire (found in old loop antennas and some coils) is normally manufactured from many strands of enameled fine gauge wire. The main problem is removal of the enamel to allow the flow of solder.

Tinsel conductors (as usually found in headphone and speaker cords) is manufactured from bare copper wire flattened out into a ribbon form and served around a fabric core, usually cotton in the older cords.

First, cut the ends of the wire making sure you have a fresh end to start with. Then using a small stainless brush, brush the end of the wire, thus separating the tinsel or fine wire strands from the cotton (or silk) covering. Next, using a small pair of scissors, cut away most of the cotton covering. If it is enameled wire, gently clean with fine sandpaper or steelwool.

Now for the soldering. A word of warning: never touch the tinsel wire with the soldering iron... and never apply too much heat on tinsel wire. Instead, wrap the delicate ends with a piece of fine bare wire (#24 to #36) which can be obtained by removing a single strand from a large multicore piece of wire.

Procedure:

1. Wrap the fine strand of bare wire (about 8 to 10 turns) around the end of tinsel or Litz wire in a neat coil. Cut off excess.
2. Dip the freshly wrapped end into some soldering paste. Heat up soldering iron (caution.. not too hot, about 400 degrees).
3. Melt a drop of solder and let it hang from the end of the soldering iron. With the solder thus melted, carefully place the wrapped and fluxed end of the tinsel wire just into the drop of solder making sure that you don't actually touch the tip of the soldering iron as this would oxidize the tinsel and ruin the whole job!

Lots of luck !

Close-Up

[Cont. from p.21]

S.O.W.P. "SPARKS" JOURNAL

Haven't had time to read all of Bill Breniman's latest Journal -- for good reason, it is not a journal or bulletin, it is a BOOK! A tremendous amount of information for the old time commercial operator. I did note, however, a brief history of Emil J. Simon's "Intercity Radio-Telegraph Co" by former manager Clarence Gielow.

IRT was formed in 1923 to handle commercial traffic on the Great Lakes. It slid into oblivion during the depression years. AWA has an IRT stock certificate hanging in the Museum and a large transmitting inductance made by the company.

[Continued on page 23]

Close-Up

[Cont. from p.22]

OLD TIME RADIO CONVENTION

Members interested in old time radio programs missed a good one recently: the big Convention (4th Annual) held Oct. 20 at Bridgeport, Conn. Dozens of old time radio stars were on hand as well as producers and technicians. In addition to a day of programming and a buffet dinner, there were 30 dealer tables offering all kinds of radio memorablia.

Collecting old time radio programs is now big business. I have a friend at Kodak who has a special room in his home full of tapes he has collected over the years (yes, from floor to ceiling!).

I asked him when he had time to listened to all his tapes. No problem. He has a cassette tape player in his car and instead of listening to commercials (AM) and drugstore music (FM), he plays back old time radio programs going to and from work. Hi-ho Silver!

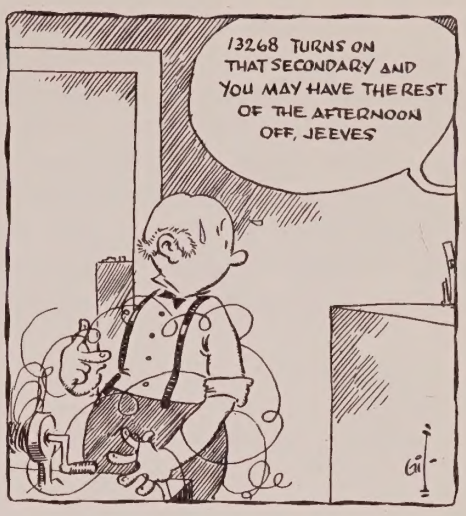
EAST BLOOMFIELD - HOLCOMB

New members are confused about AWA Headquarters and Holcomb. So are some local residents..... East Bloomfield was founded in 1796. A prosperous village, it flourished until 1852 at which time a railroad was built at the bottom of a nearby hill. Industry and commerce slowly gravitated to the railroad station and by 1914 there were two business sections: East Bloomfield at the top of the hill and the newly formed village of Holcomb at the bottom. Neither area will give up its identity so we have two postoffices, mayors, water systems, etc. in one community. AWA mail address is Holcomb and the Museum, 1500 feet up the hill, is in East Bloomfield!

EVERYBODY HAPPY?

The contents of your Bulletin reflect what you as members ask for. Membership applications and letters tell us what you like and dislike. With nearly 2200 members (of whom 1400 are collectors) we try and fill in the pages with a little of something for everyone ...hopefully..and surprisingly, the collectors like the general interest articles too.....

WITH THE COLLECTORS



MORE TROUBLE

Bill Russell (Queensland, Australia) is running into more trouble making his 10-inch Marconi spark coil. After winding 54,000 turns (!) on the secondary using re-claimed wire, it broke down....we're very sympathetic Bill...

OLD, OLD TIMERS CLUB

The OOTC gathering at the Conference was well represented with members from practically all districts. Secretary/Editor W2JE, working with W8AQ, nicely handled the affair and eventually turned it over to Joe, W2VW who climaxed the occasion when he wow'ed them with his "ring-of-fire" rotary gap spark transmitter.....Speaking of O. O. T. C., I just received a letter with a copy of "Certificate of Skill" (operator's license) issued to O. O. T. C. President Ray Meyers, W6MLZ in 1912! The certificate was issued by the government before general licensing. Ray's certificate is unique in that it is the FIRST issued for both commercial and amateur operation! Ray, you're a real OT.....

RADIO CLUB OF AMERICA

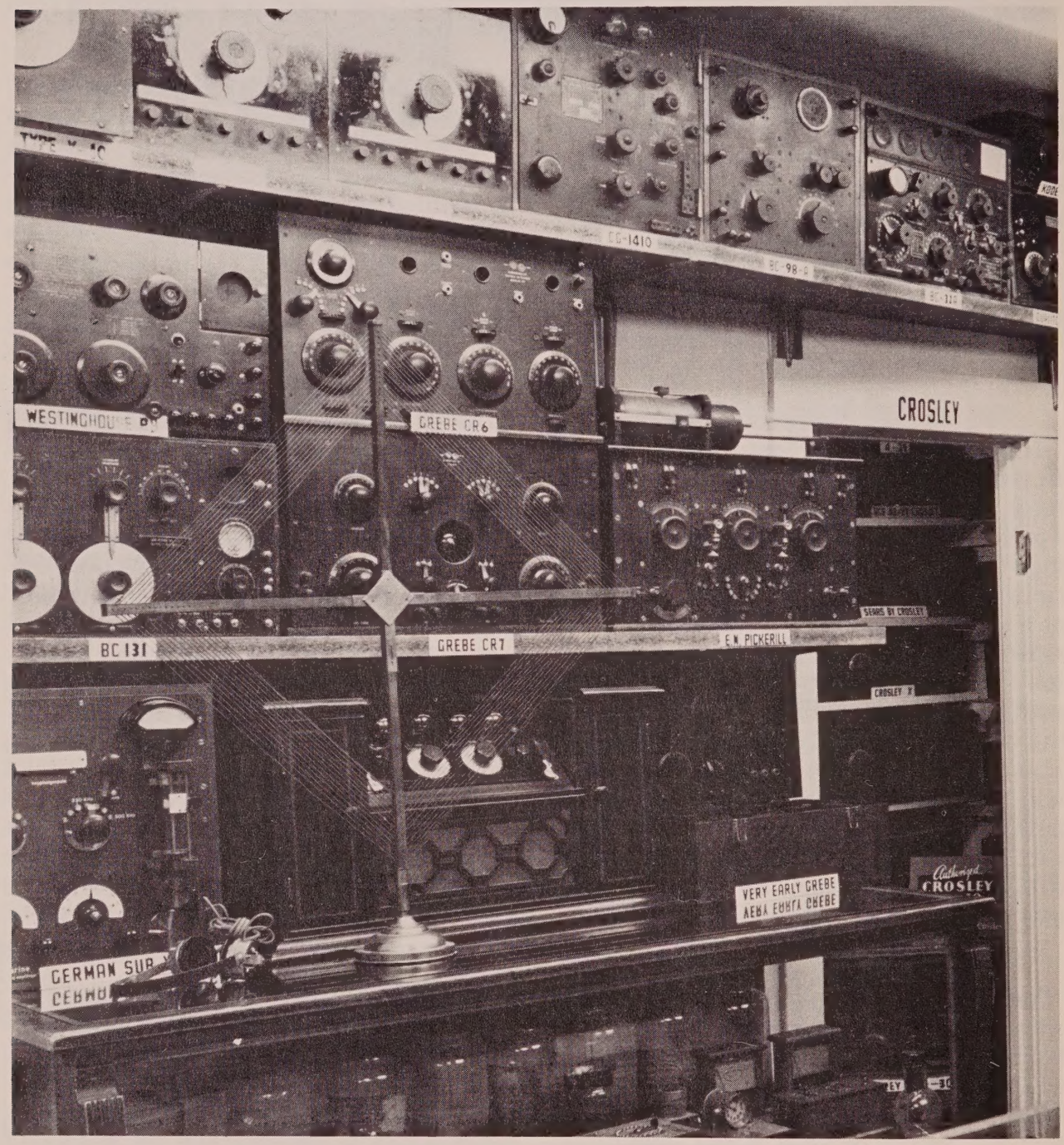
I just returned from another RCA Annual Dinner (NYC) where this time I found myself on the program telling about old radio equipment and museums. Many AWA members were in attendance with Bob Merriam receiving the Ralph Batcher Award for his historical work..... a happy occasion.

73, B.K.

MUCHOW'S MUSEUM

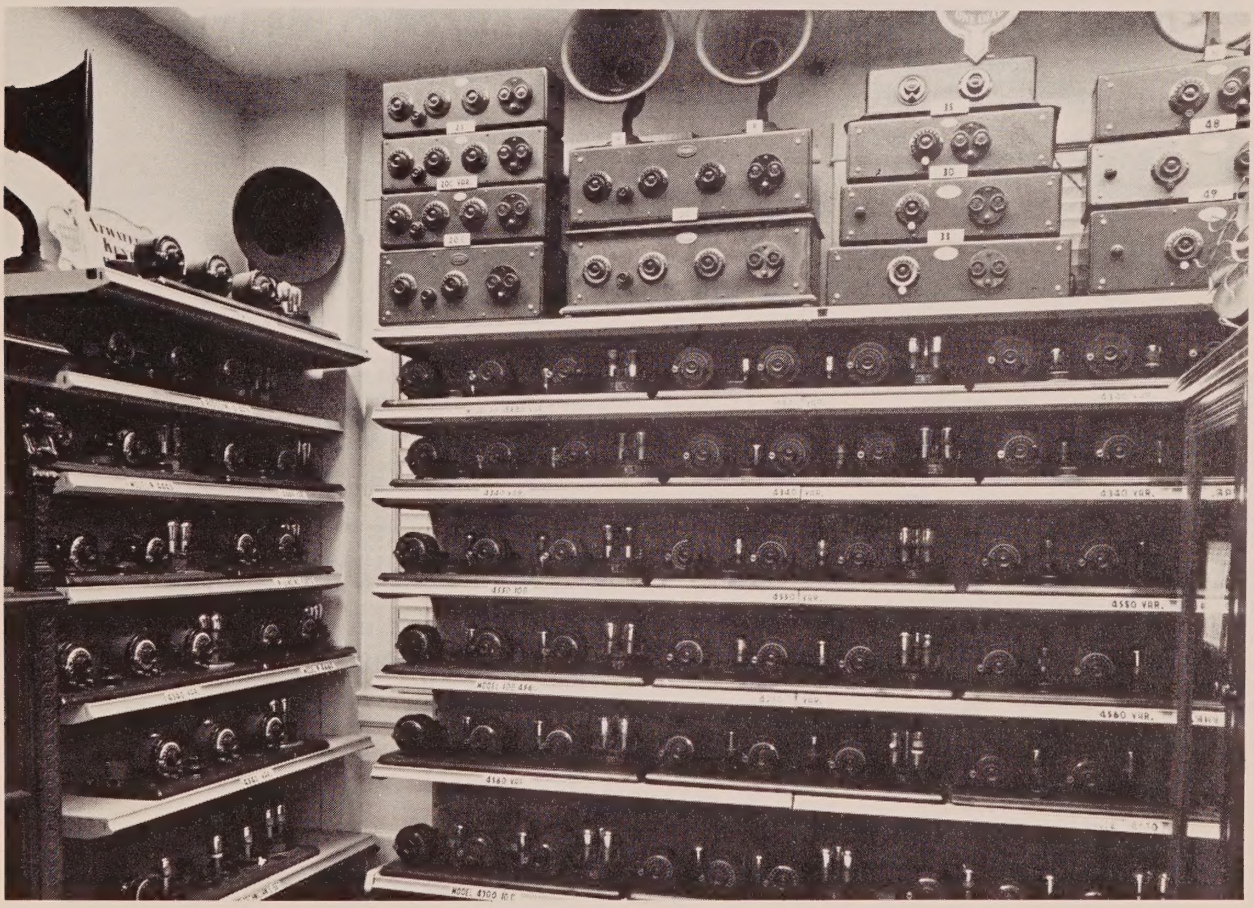
Several members have indicated an interest in Dr. Ralph Muchow's Historical Radio Museum in Elgin, Illinois. Alan Douglas obligingly took the fine pictures which are reproduced on this and the next page. They represent but a small portion of what may be the largest and finest collection of radio receivers in the country if not the world.

Tastefully laid out and properly labeled, Ralph shows the development of the radio receiver from 1895. The collection represents nearly 2000 different receivers and transmitters, over 200 speakers and 200 different crystal sets! In addition, there are numerous other radio items of interest. Ralph has been collecting since 1967 and an AWA member since 1968.



A view of some of the rarer receivers. In addition to receivers there is a fascinating display of 30 different types of Geissler tubes including rotary, automatically fired and rotating. 95% of all equipment is in working condition which represents a tremendous amount of work (and knowledge) on the part of the owner.

Note Grebe sets at left and commercial upper right. (All photos by Alan Douglas)



Atwater-Kent breadboards: one of the largest collections in the world.

OLD TYME HAM ADS

OLD TYME ADS are FREE to members interested in collecting and restoring historical equipment as a hobby. They are not to be abused.

RULES FOR ADS:

1. Ad MUST be written on separate sheet of paper--not part of letter. Send SASE for acknowledgement.
2. Material must be over 25 years old and related to radio or electricity.
3. Give full address and Zip#.
4. AWA will not print repetitious ads or ones indicating regular sale for profit.
5. The Association is NOT responsible for any transaction.
6. AWA retains the right to reduce size of ad if over 8 lines including address.
7. Only ONE ad per issue per member.
8. Deadline for ads is 6 weeks prior to mailing date:

March issue -- JAN. 15
June issue --- APR. 15
Sept. issue -- JULY 15
Dec. issue -- OCT. 15

Important ! To insure delivery, out-of-state mail should be sent one week PRIOR to dates noted above.

Mail all ads to:

Antique Wireless Assn.
Main Street, Holcomb, N.Y.
14469 U.S.A.

WANTED

--info on RCA Hyperion (1926) panel layout and placment of subchasses. Jerry Newton, Rt. 1 Box 262, Woodland, CA 95695

--a carborundum crystal detector, 1926 vintage. Orin W. Bake, 603 W. Chestnut St., Oxford, Ohio 45056

--info on A-K 35, schematics, manual, etc. Also want 201A tubes and magnet for AK 35 horn or specs to make my own. Bill Taylor, Box 132, Unionville, PA 19375

--new AWA member wants to get started with one or two early radios. Am an ordinary working guy-not rich. Steve Smith, 1794 Normandy Drive, Miami Beach, Fla 33141

--80 meter, 20 meter bandspread coils and audio gain knob for prewar HRO. Also A-K Model E speaker. Dale L. Martin, 2021 153rd Ave.SE, Bellevue, Wash. 98007

--info on an Indiana Hyperdyne rcvr, made by Indiana Light and Electric Mfg Company, Marion, Ind. Gene E. Snyder, 863 N. Stange Rd., Graytown, Ohio 43432

WANTED

--early brass blade table fans, ceiling fans, and unusual or odd fans. Have radios to trade or will purchase. Richard Cane, 8391 N.W. 21st St., Sunrise, Fla. 33322

--early amateur equipment, state condition, make, model & price. H.F. Schnur, 115 Intercept Ave. North Charleston, SC 29405

--Radiola I, VI, VIIB, RS, Aeriola Jr., Factory crystal sets, factory one tube sets. Mark Kaplan, 129 Howell St., Canandaigua, N.Y. 14424

--Crosley Super Tridyne. Please state condition and price. Also early A-K breadboards. James Notaris, 1100 Welsh Rd., Ambler, PA 19002 (Tel. 215-646-3631)

--A-K Cathedrals and parts. Also Radiola RS and IV parts. Want Aeriola with painted dials without cabinet. Send your lists of parts for sale. Merrill W. Bancroft, 169 So. Row Rd., Townsend, Mass. 01469

--1920-1930 QST or Electronic Experimenter, any condition. Also fixed carborundum or galena detectors. M.T. Marfield, 128 St. Joseph Ave. Long Beach, CA 90803

--RCA redbooks '36, '37, '38; early Radiolas; RADA using 199 tubes; any service manuals. Have Riders 9-14 for trade for Riders 16-23. D.A.Swindal 1112 San Jose Lane, Hanahan, S.C. 29406

--A-K breadboards, headphones, speaker for A-K Model 55. Also manuals and literature. W.L. Burnett, 4111 126th St., Edmonton, Alberta, Canada T6J2A6

--info about work in early radio ('20s) by my father, Lawrence S. Babcock. Magazine articles authored, patent applications or radios built. He lived in Jamestown, NY. Wanted by Lawrence F. Babcock, 8095 Centre Ln., E. Amherst, NY 14051

--Pilot AC Super-Wasp rcvr. Buy or swap. John Webb 6267 Squiredell Dr., San Jose, CA 95129 Tel. 408-257-3719

--help me find an incomplete Harko-Crosley set for parts! Also need a small 50A amp unit...and the ugly Crosley "Widget" cathedral radio. I like Crosley stuff! Dave Crocker, Tavern Path, Plymouth, Mass. 02360

--'Radio' magazines July, Sept, Dec. of '28, Dec. '30, all '31 but Sept., all '32, Jan., Feb., Mar. & June of '33. L.P. Rayner, 5512 N. 71st Place, Scottsdale, Ariz. 85253

WANTED

--Western Coil WC-15JR, panel & chassis for Tuska 224, caps for '26 Neutrowound, base for 11" Magnavox bell (M4?) Have for sale or trade: RC cabinet, Philco 49-1002 tv. J.N. Ligday 675 Hillside Ln. Stillwater, MN 55082

--information on 3 unit CARCO National 1 tube airphone. Want Wireless Age mag.; have for sale Mecograph key, tap switches for Zenith 3R & 4R. Joe Szabat, W3LST, 228 Plummer, Oil City, PA 16301

National SW-3 rcvr with or without coils in any condition. Also meed SW-3 coils or XR-6 coil forms. Interested in other National rcvrs. F.R. Tesche W6NCS, 3728 Mosswood Drive, Lafayette, CA 94549 (Tel. 415-284-5608)

--information of Simon radio, including company history and tech. data on products, esp. receivers. H.L. Chadbourne, 530 Midway St., La Jolla, CA 92037

--radio magazines before 1930 and any info or literature on Elkay and Amplex De-Exer receivers. Have free Philco 19 instr. manual repros. Send SASE. Ed Wyspianski, 27 Sunny Waters Pk, Norwich, CT 06360

--Magnecord SD-1 wire recorder or PT-6 tape recorder and Armour Research Foundation Model 55 wire recorder. Also G.E. wire recorder. Gaylord Ewing, 990 Wegman Road, Rochester, N.Y. 14624 (Tel. 716-247-1084)

--Scott 1930's chrome AM radio. Also complete dial Philco Model 70. Price and condition please. Jon Karstens Sr., 1320 Soto Court San Jose, CA 95121

--Scott Selectone Type 643 pwr xfmr for Shield Grid Nine power unit. Info about W.H. Hollister or his Lincoln Radio Co. of Chicago. Want long playing Edison Diamond discs. State price. George Harris, 3212 36th St. Lubbock, TX 79413

--catalogs-Allied, Hallicrafters, Midwest, World Radio, QST before 1930, CQ before 1950. Nicholas Vangoff, 21369 Audette, Dearborn, Michigan 48124

--early tv's, pre 1940 and relatively portable. George Gerstman, 4041 Picardy Dr., Northbrook, Ill. 60062 (Tel. 312-263-4350 days)

--MESCO shortwave regen rcvr, VR p. 28, or any parts, or photos/drawings to reconstruct one (have empty cabinet). Will swap good radios. Alan Douglas, Box 225, Pocasset, MA 02559

WANTED

--Grebe CR-12 cabinet and Grebe Cr-12 open type xfmr. Have General Radio 1920's attenuation meter in excellent cond. for sale or trade. George Potter, 238 Village Dr., Lewisville, TX 75067 (Tel. 214-436-3944)

--Scott Philharmonic AM/FM model, also pair H.F. speakers for 1937 Philharmonic. P. Best, Box 59, Bridgewater Corners, VT 05035

--Radiola Model 103 speaker George Brehm, 13402 Leibacher Ave., Norwalk,CA 90650

--"Radios Master" catalogs prior to 1945.Also books "Quartz Crystals for Electrical Circuits" by Heising; "Piezoelectric Crystals and Their Application to Ultrasonics" by Mason. John Nagle, 12330 Lawers Rd., Herndon, VA 22070 (Tel. 703-620-3066)

--National television TV-7M (circa 1949). dual purpose meter: relative field strength & line voltage mfd. by Marion Elect. IPST Co., Manchester, N. H. Joseph Benne, 494 Hirsch, Calumet City, Ill. 60409

--Bremer-Tully tandem condensers, G. R.: Type 368 vernie cap., 23 plate osc. cond., 1F trans., and GR tuning knob with black metal scale, knobs & rheo for West. DA, 400 ohm Bradleyometer. Richard Foster, 12 Shawmut Ave., Cochituate, Mass. 01778

--Radiola 67 power xfmr, orig. & working. Would consider chassis with good xfmr. Need horn for WE spkr. Repo AFT xfmrs for sale. SASE for info. Bob Goodman, 7943 Ponce, Canoga Pk., Calif. 91304

--Browning-Drake info or sources regarding the men, sets, kits and manufacture. Ed Lawlor, 5 Pauline St., Carteret, N. J. 07008

--early Hallicrafter receivers and literature & publicity related materail. Max de Henseler, 320 East 42nd St., Apt. 801, New York, N. Y. 10017

--heavy original line cord from AK superhet chassis, gold tube shield used for type 56 tube on AK superhet chassis, G. R. superhet osc. coils, G. R. lab standard inductances & condensers. Rodney Schrock, 402 Lincoln St., Somerset, Penna., 15501

--pre (42-50 mHz) and early postwar FM tuners including EH Scott. Also want "junker" Kennedy and Grebe sets for parts or restoration. Al Germond, 211Brenda Lane, Columbia, Mo. 65201

--Paragon DA-2, panel, nameplate & condenser for Clapp-Eastham HR, Det./audio section & variometer for CR-9 or could use CR-9 parts set. Carl Weibezahl, 305 Belvidere, Washington, N. J. 07882

WANTED

--Radio News: Jul, Aug, Oct, Dec. 1919, May, Jun, Jul, Sep. 1920, Feb, May, Nov 1921, Oct, Nov 1922, Nov. 1924, May 1925, May, Oct, Dec. 1926, Jul, Nov. 1927. Available many mag. in early 20's. R. Brewster, 454 Diablo Dr., Pittsburg, Pa. 15241

--Paragon DA-2, will trade Clapp-Eastham HZ 2-stage amp (1 open AFT, see OTB p. 8), Grebe CR-12 panel (mint) & switches. Mike Tuggle, 909 Moores Mill Rd., Bel Air, Maryland 21014

--Mignon AFT, 1/2" upright core, also gold-plated case with decal with name Mignon on it. Unit 2" x2" Peter Denman, RR#4, Arthur, Ontario, Canada NOG-1AO

FOR SALE and/or TRADE

--sell/swap EverReady Mod 21, Radiola III, AK 20 large, AK 20 Comp., AK 49, Crosley 26, Ozarka 5, Masterphone 5, Kolster K-20, Kennedy Cath mod. 56, 3 RCA 100-A spkrs & more. SASE for list. L.S. Colebank 742 Albany Drive, Bismarck, N.D. 58501(Tel. 701-258-7646)

--QST's and other literature from 1925. FBX, SW3 and RME 69. SASE for list. Joel Levine WB2BMH, 1983 E.22nd St. Brooklyn, NY 11229

--Western Elec. 1A reprod. arm, less pickup, $7.50; 2-262A, 1-274A, 1-275A W.E. tubes, $2. each; 75 issues of "Aerovox Research Worker" incl. 5-'37, 1-'38, 1-'50, 1-'51 w/balance from '52 to '64, $3.; Hallicrafter S-120, $15. G. Hausske, 1922 E. Indiana, Wheaton, IL 60187

--sell or trade QST's from 1916, CQ's from 1946. Callbooks from 1924, handbooks, catalogs, tubes, receivers, xmitters, xtal detectors, electrolytic detectors. Erv Rasmussen 164 Lowell, Redwood City, CA 94062

--Riders Vol. 7-13 w/indexes; P.S. & amp for 104 RCA spkr; chassis for AK44, AK55, Kellogg RFL and Philco 86; cathedrals, early home brews & books. No shipping. SASE for list. Wally Worth, 2 West Elm Ave., Wollaston, Mass 02170

--sell Tesla subject books and periodicals (duplicates) from a major collection of Teslaiana. Send SASE for list. Lee Anderson, 2525 S. Meade St., Denver, Colo. 80219

--sell or trade JH Bunnell sounder, Harveywells Bandmaster w/VFO and manual. Chicago wire recorder complete. Hallicrafters 8R40 w/manual. Want battery set or cathedral radios. Charles C. Fowkes WB4BOM 4903 29th Ave., West Bradenton, FL 33505

--several pieces of old gear and parts. SASE for list or phone 617-475-5098. S.N. Blake 186 Summer St., Andover, Mass. 01810

FOR SALE/TRADE

--Sylvania tube tester #140, $30.; Precision tube tester #612, $30.; Supreme tube, ohm, capacitor tester #585, $60.; All ck tubes from '20s-'40s, and are in cases, gd working order w/operating inst. Herman Fothe, 10 Jackson St., Sloatsburg, NY 10974

--trade battery radios, telegraph items & QSTs. Want an Aerex crystal set, Crosley 50, Pup, Radiola RS, Radiola III amp., Federal 57. David Shanks 115 Baldwin St., Bloomfield, N.J. 07003

--Amrad quenched gap, RADA, Radiola III, Polydyne, AK-35, many tubes, headphones, radio parts plus some printed material. Send SASE for list. Harry Cap, 190 Beach St., Bridgewater, Mass. 02324 Telephone 617-697-8648

--Thermiodyne TF-5, good except cabinet needs refinishing, $60. plus shipping. Trade RCA AP 935 pwr. amp. complete w/tubes and works, latest patent 1918. Want WE 215A or WD11 tubes. William C. Irvine, 314 Hamilton St. Rt.6, Gulfport, MS 39503

--trade Riders Manuals vol. 4, 6-20 with many indexes. Want vol. 23. Eugene Falk, 2063 Van Cortlandt Circle, Yorktown Heights, N.Y. 10598

--Thompson Tube & Lamp collection. Sell to highest bider, buyer pick up. 1815 tubes, 300 lamps, 100 radio & lamp books. 45 pieces of equip. Vern Thompson, 1403 South Fourth St., Effingham, Ill. 62401

--Scott Model 800 -tuner & amplifier; also Silver Marshall Model V Tuner. Will sell or trade. George Brehm, 13402 Leibacher Ave., Norwalk, CA 90650

--1920-1940 broadcast & amateur equipment duplicates. SASE for list. C.P. Patton, WØEWQ, 3471 Churchill, St. Paul, MN 55112

--square brass(3/16")rod for xtal sets & tuners. 10¢/inch. Sliders for above, $1.50 ea. Bakelite radio knobs like those used in the '30's. 3/$1 Post./handling 50¢ per order. Dale Hammer, 2206 Tampico Tr., Bellbrook, Ohio 45305

--will trade antique Fleming valve for other antique tubes. Please send me your list. L.J. Schnedorf, W9EWK, 610 Monroe Ave., River Forest, Ill. 60305

--sell Crosley batt. sets, speakers, advertising, manuals, literature. Also radio stamp collection. Send SASE for list. Need chassis/parts to restore Crosley XL. Jack Bacon, 2840 Alabama Ave.So., St. Louis Park, Minn, 55416

[Continued on page 29]

RADIO PIONEER

LAWRENCE COCKADAY
Early radio receiver designer

Lawrence Cockaday is an early wireless pioneer, engineer and author. He taught college physics, electrical engineering and electronics and spent 15 years in the U.S. Navy retiring as a Captain. His final retirement was from Westinghouse engineering in 1959. Historians and collectors immediately associate his name with the fame Cockaday circuit of the mid 20's. The above picture was taken in his lab about 1921. Note the early CW transmitter at left and magnetic detector on upper shelf.

AN EXCITING SIDE-LINE FOR ANY COLLECTOR

BY GEORGE, THE RADIO DOESN'T SOUND JUST RIGHT, DOES IT DEAR ... ??
IT ISN'T EVEN TURNED ON!! ANYWAY, IT HAS SOUNDED LIKE A CAT FIGHT FOR TWO MONTHS !! WHY DON'T YOU CALL IN A SERVICE MAN ??
AND OUR PHONE NUMBER, FOLKS, IS RIGHT ON THE OTHER SIDE!!—

COLLECTING OLD TIME RADIO POSTCARDS

Many radio historians/collectors are now collecting penny postcards as a hobby. There appears to be a wide variety of subjects. Pictured above is a card owned by Dennis Peterson which tells one to turn it over where a telephone number is given for the local National Tube distributor. In addition to humorous type cards, there are those that picture early radio stations. Alan Douglas has made reproductions of such a card showing Fessenden's Brant Rock installation.

--tubes, some used & new such as Can. West. W-01A & W-01B in early red & black boxes. State needs. Jack Rhodes, 2700 Burdick Ave. Victoria, Brit. Col., Canada V8R 3L9

--tubes VT-24/864 new, last offering. $4. each or 6 for $21.50 UPS PPD. Will take crystal detector or stands in trade. George Haymans, Box 2478, Gainesville, Georgia 30501

--will trade No. 3752 AK coupled circuit tuner for a No. 4051 AK Type 11 tuner. Ross Smith, 1133 Strong, Elkhart, IN 46514

--trade a Dept. of Commerce 1921 Callbook of commercial & govt. radio stations in the U.S. (102 pages) for a small horn speaker or ? W. Harder, 911 Northrup, W. Lansing, Mich. 48910 (Tel. 517-882-2303)

--old radios, tubes, horns, tube testers, speakers, radio paper, plus much more. Send for list 1-80. 50¢ plus large SASE w/2 15¢ stamps. Krantz, 100 Osage Ave., Somerdale, N.J. 08083

--sell radios, books tubes and misc. SASE (Canadian) or $1. Rod Goodwin, Box 1854, Ponoka, Alberta, Canada TOC-2HO

FOR SALE/TRADE

--sell/swap old radios, speakers, tubes, parts to repair old radios, magazines, etc. Send large SASE for list. Bill Laverty, R.D.1, Box 62K, Egg Harbor, N.J. 08215

--WE 28B amplifier VR212 @ $75. G.R. 174B wavemeter VR221 $75. G.R. 164B Audibility meter VR48 @ $50., G.R. 247E condenser 500 mmf. @ $50., GR AC VTVM 727A (1935) @ $35. J. Wasiewicz, 229 Sarles Lane, Pleasantville, N.Y. 10570

--A-K breadboard instruction manual, beautifully illustrated as orig. Hi-quality off-set. Includes: #5, 9, 9A, 4066 & others. Send $3. for pp copy to: A.W. Aseltine, 345 Glenwood St., Ann Arbor, Mich. 48103

--sell/swap: rare Philco 38-38A 2 volt battery set w/tubes, cathedral, chassis good, cabinet poor but restorable, make offer. Russ Webber 6520 Minnetonka Blvd., St. Louis Park, Minn. 55426

--12 tubes including UX-201A's, UX-112A's, UV-199's, 216A. Send SASE for description. A. Smith, Stonehedge, Mass. 01773 or Tele 617-259-9351

OLD TYME HAM ADS

IMPORTANT NOTICE

Deadline for the March Old Time Ads is Jan. 15. Out-of-state members are advised to mail no later than JANUARY 10 ! Also, keep ads SHORT and mark whether item is FOR SALE or WANTED. We can't guess.....

WIRE AVAILABLE

I have contacted a wire manufacturer who can supply the following in bulk: single & double cotton.. --silk (actually nylon) in different colors, enamel (in colors), --and Litzendraht. The fabrics can be bare as well as enameled. All gauges available.

There is a need to have a minimum order, therefore, please write and let me know your requirements. Indicate size, etc. and amount. I will announce available wire in JUNE OTB. Write:

CHARLES DAY
P. O. BOX 205
SOUTH DARTMOUTH, MASS.
02748

STANDARD FREQUENCY STATION 1 X M

by Richard S. Briggs, W1BVL

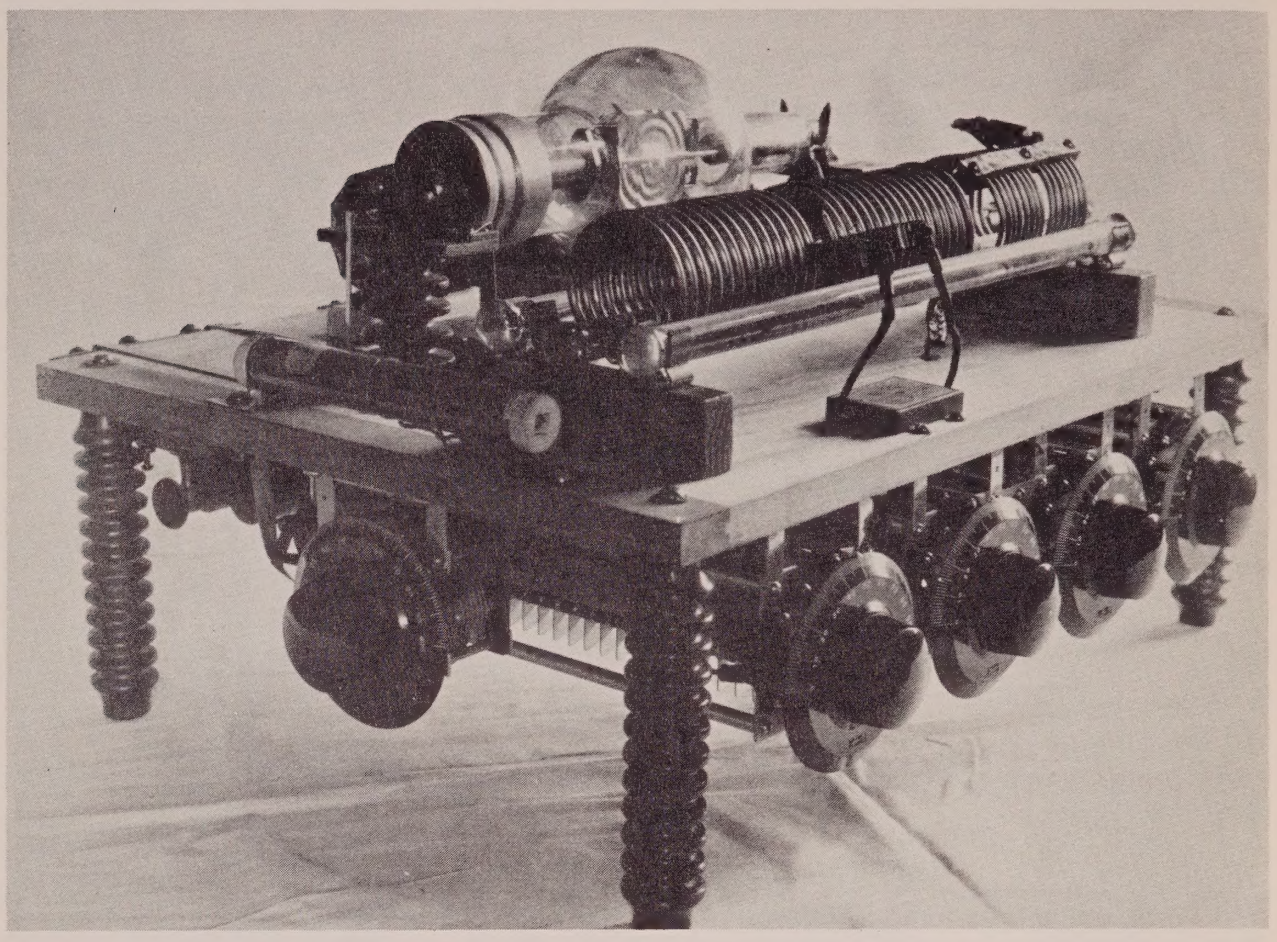


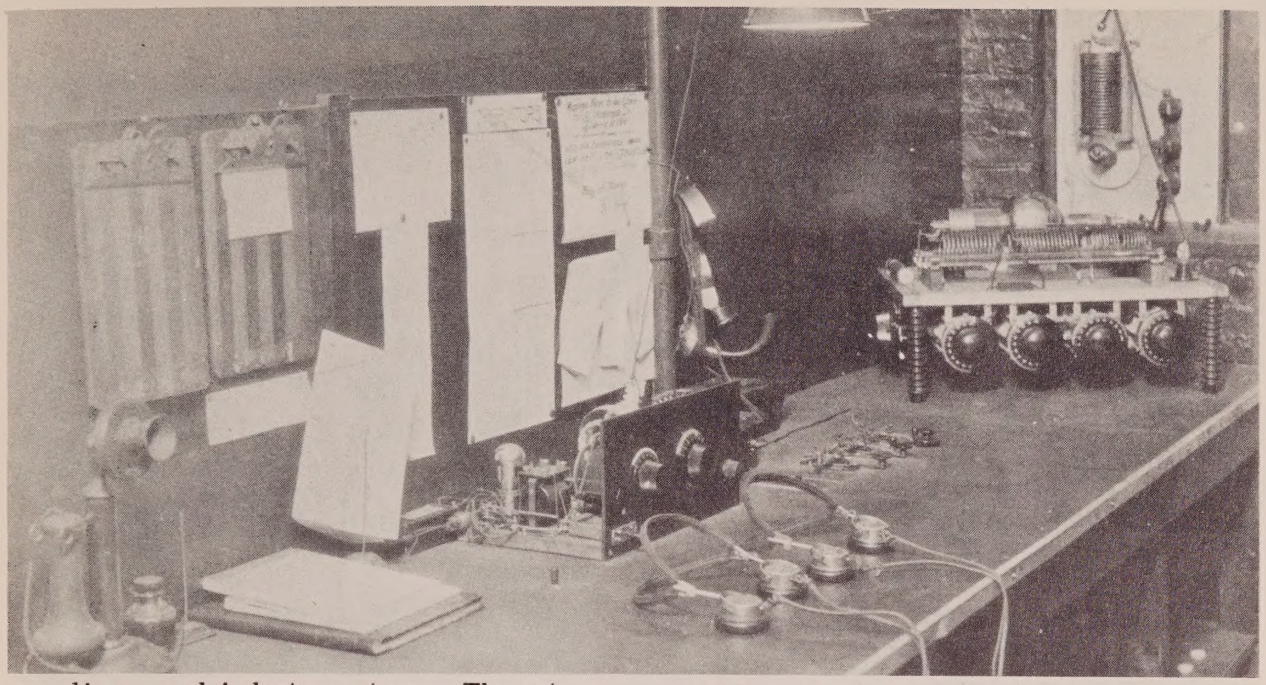
Fig. 1 Self-excited oscillator using "P" tube

1 X M, the experimental station of the Massachusetts Institute of Technology Radio Society, was started after World War I by students, many of whom had been in the Government signal services.[1] During the period around 1926, 1 X M made standard frequency transmissions covering the short wave amateur bands. It was an official wavelength station sponsored by the A.R.R.L. Other standard frequency transmissions at this time were made by WWV, Bureau of Standards; 9 X L; and 6 X BM.[2] Accurate frequency measurements were needed in the amateur bands at this time as many citations were made for off-frequency operation.

1 X M was located in a building adjacent to the M.I.T. powerhouse in Cambridge, Massachusetts. Antennas were supported by the 100 + foot high smokestack of the powerhouse. 1 X M was one of the first 200 meter stations heard by Paul Godley in Scotland during the A.R.R.L. transatlantic tests in December 1921.[3] At that time the Hartley transmitter plate supply used either a 500 cycle generator for I.C.W. or 60 cycle AC through a mercury arc rectifier and filter to obtain a DC note for CW.

The standard frequency program was a joint operation of the Radio Society and the M.I.T. Communications Laboratory. J. K. Clapp, ex 1BYX and subsequent inventor of the Clapp high stability oscillator, was an instructor for the radio engineering courses at M.I.T. He assisted with the standard frequency programs using facilities of the Communications Laboratory. K. V. R. Lansingh, ex 2ATF and W6QX was involved with the administration of the program and set up the schedules for transmission. He and William Snyder, ex 9BNO; Hilton, ex 1BRQ; Robert Dresser, ex IVT; and R. S. Briggs, ex 1BVL, now W1BVL were active in operating and maintaining the standard frequency station.

The CW transmitter was designed and built by the student members of the Radio Society. It was a tuned grid-tuned plate oscillator using a "250 watt" VT1O Pliotron or P tube. (See Figure 1) The P tube had a tungsten filament and was similar to the UV204 RCA 1/4 KW tube.[4] It was, according to one account, found in a box of "rejects" at the General Electric Company, Lynn, Massachusetts. The transmitter was remarkably stable in operation and covered frequencies from 3500 to 16,000 KH_Z using a combination of variable capacitors and tapped inductances to provide flexibility of operation. The variable capacitors and the Type A Velvet Vernier dials were donated by the National Company of Cambridge, Massachusetts. The capacitors were specially designed with 3/8 inch plate spacing. The inductances were made of heavy copper tubing, the number of turns being selected by clips. Glass towel rods were used to support the inductances firmly and eliminate frequency variations due to vibration. It was found that the transmitting set closely maintained its calibration of frequency vs dial



readings and inductance turns. The antenna was loosely coupled to the transmitter by means of an adjustable coil. A variable capacitor was mounted near this coil for series tuning of the antenna.

The large transmitting antenna was supported nearly vertical from the top of the smokestack and consisted of a single enamel covered copper wire. The counterpoise was a single horizontal wire directly below the antenna about 20 feet above ground. The fundamental frequency was about 2800 KH_Z, a series capacitor being used for operation in the 3750 KH_Z band; the third harmonic of this antenna was used for transmission in the 7500 KH_Z band. The fundamental of a smaller antenna system was about 5000 KH_Z; its fundamental used for transmission on 5710 KH_Z and the third harmonic for transmission in the 15,000 KH_Z band. Calibrations were made for the antenna tuning over the desired frequency range.

The plate supply for the standard frequency transmitter used a mercury arc rectifier to convert 60 H_Z A.C. to high voltage D.C. via a large filter and provided a pure D.C. note.

The method by which the standard frequency transmissions were carried out may be of interest. All of them were referred directly to a master standard frequency meter located in the M.I.T. Communications Laboratory. A small monitor receiving set in the laboratory was adjusted to the exact desired frequency by tapping the box of the loosely coupled meter and varying the receiver controls until a sound was heard in the head phones. Once the receiver had been calibrated, this method was found to be faster than the use of a grid-reaction meter and fully as precise. The output of the receiver in addition to going into the head phones was sent over an ordinary telephone line to the transmitting station several hundred yards distant. A head-and-breast set was worn by the operator as he adjusted the transmitter to the calibrated frequency. Then the transmitter was keyed and tuned until a zero beat was obtained from the remote receiver. Any slight drift of frequency could be corrected by re-tuning the transmitter to zero beat.

The master standard frequency meter in the laboratory consisted of a General Radio Precision Capacitor with worm gear drive for close adjustments. The associated coils were made of heavy copper tubing. To avoid "broad" signals, the receiver used no antenna and was built to minimize stray pick-up and hand capacitance.

Three standard frequency schedules, A, B, and C were used. Schedule A had about 1/10 of 1% accuracy using the frequency calibration described above. Schedules B and C had about 2/100 of 1% accuracy with the use of suitable harmonics from a quartz crystal oscillator functioning as a master frequency standard at 252 KH_Z. This oscillator as well as the frequency meter used for schedule A were calibrated with transmissions from WWV of the Bureau of Standards. Each transmitted frequency from 1 X M occupied 7 minutes as follows: 3 minutes "QST QST QST u 1 X M 1 X M etc; 3 minutes long dashes broken by "1 X M". One minute announcement of the exact frequency. The total time of transmission was two hours.

The writer recollects that the 1 X M signals were reported and used over a wide region particularly in the eastern states.

During the period of the standard frequency program, other equipment was used to work amateur stations at 1 X M. A 100 watt CW transmitter built by H. Dyson, a member of the Society, was used for the above traffic activity. It consisted of a coupled push-pull oscillator with two 50 watt tubes and covered a range from 3000 to 9000 KH_Z. Four Amrad S tubes were used in a bridge rectifier for the power supply. A regenerative detector with one audio stage was used in conjunction with the 100 watt set. W1MX is the present call for the M.I.T. Radio Society.

Notes:

1 QST June, July 1926
2 QST November 1925, March 1927
3 QST March 1923
4 Saga of the Vacuum Tube (Tyne), p. 151

Ivan Coggeshall (left) receives the coveted Houck Award for historical documentation from Ray Hutt (AA4SI) of the Smithsonian. "Coggie" received his lst Class commercial license in 1914 and is still active. He has written numerous technical papers and articles. He is past president of the lRE and V. P. of Western Union.

Guest speaker Elizabeth Zandonini (W3CDQ) flanked by Pres. Brelsford (K2WW) and Bill Grenfell (W4GF). Liz received her commercial operator's license in 1917 and later an amateur license. Still active (mostly 40 CW) she may well hold the women's record for continuous operation.

Bob Lozier adjusting his mechanical TV scanning disc camera. At his left is television historian Ken McIntosh. Note "Felix the Cat" on phono turn-table.

One of the many fine receivers in the Old Equipment Contest: a 1910 receiver which uses either a crystal or electrolytic detector (Property of Jim Kreuzer)

Ernie de Coste, Curator Canadian Museum of Science (Ottawa), presents Joe Pavek, WØOEP (left) the Houck Award for Preservation. Joe has saved many fine historical artifacts in his museum which has been host to numerous organizations.

Notice: The NEXT issue of the OTB will cover the Conference General Auction.

On Review

YOU SHOULD READ THIS BOOK!

"STREAK OF LUCK"
Life and Legend of Thomas Edison
by Robert Conot

This book is by far the best ever written on the life of Thomas Alva Edison. Book reviews acclaim it as the "greatest" and several AWA members including Jim Reddig and Bruce Kelley said, "You must read it."

Fired with all this prompting, I placed my name on a waiting list at the local library (only one copy available).

A call came, I got the book and started in on it that night. It took three weeks (I had to renew the book) of casual reading to get through it.

It is one of those books in which you did not pass over pages. The author didn't hold his punches. Al, as he was called, was a cussing, ruthless, narrow-minded genius. An ego-maniac, poor business man and a sentimental slob who frequently slept in his clothes on a workbench instead of going home to his wife's warm bed.

In spite of all his idiosyncrasies, you couldn't help but like the fellow and acknowledge he was one of the world's greatest inventors. A book you must read. [Reviewed by Carl Zeigler]

565 fine-print pages, illustrated plus exceptionally good reference chart. Price: $15.95 from Seaview Books
ISBN: 0-87223-521-1

(Have you read an interesting book recently? Send your review to OTB Editor.)

VERY SAD REVIEW ON DE FOREST

A brief story about Dr. Lee deForest published sometime ago in the Columbus, Ohio "Dispatch" just crossed my desk. It is one of the poorest writeups I have read on deForest... or any other radio pioneer for that matter.

There are a lot of people nowadays trying to make a buck on subject matter they know little about... and this was an excellent example.

Apparently the author was trying for sensationalism-- the title RADIO INVENTOR DIED ALONE, BROKE, AND FORGOTTEN. The headline in itself is incorrect-- he certainly wasn't alone and most certainly not forgotten. Newspapers throughout the country as well as radio publications carried his obituary.

A large sketch shows deForest wearing a shop-apron, supposedly working in his lab... in the background is a broken plastered wall revealing bricks. Very sad. The good Doc is seen making a pencil sketch of a vacuum tube-- and nearby is a chassis with several modern DOME type tubes!

The author introduces deForest, quote, "a humble, unlearned man-- who had a flash of intuition, etc..." There is no mention of his college education at Yale!

The writer dwells on the 1933 World's Fair and blithely states that three-fourths of ALL the electronic gadgets at the Fair depended on DeForest's radio tubes....

Oh come now-- how can anyone write such nonsense?.... and where did the magic number "three-fourths" come from?

----B.K.

CONFIDENTIAL FREQUENCY LIST
by Perry Ferrell

Are you a SWL, amateur or commercial operator? If so, you'll find the latest callbook released by Gilfer Associates of great interest. With an index starting with the frequency of 4001.0 kHz, it lists every station in the world (almost) to 25,590.0 kHz. Stations are listed by frequency followed by mode, call letter, location, type of service, power plus remarks. Examples: Pakistan Navy on 8057.0, Interpol on 8038.0, USSR Base in Antarctica RUZU on 10,140.0, etc. Send for their catalog of callbooks (free): Gilfer, Box 239 52 Park Ave., Park Ridge, N.J. 07656

On Review

Reviewed by Thorn Mayes, W6AX

ANOTHER NEW BOOK ON TESLA

Early issues of the "Electrical Experimenter" magazine (1919) contained pictures of the beautiful spark discharges generated by Nikola Tesla using the equipment installed in his laboratory at Colorado Springs in 1899 and 1900. Little data has been published on the design and tests of this high frequency apparatus.

Over a year ago it was reported that Tesla had kept a diary covering his experiments and that it would be published by the professors at the university he attended in Belgrade, Yugoslavia.

The book is now available in English: "Nikola Tesla, ColoradoSprings Notes 1899-1900". It is 9x12" and consists of 437 pages and was prepared by the Nikola Tesla Museum at Belgrade as a companion volume to their two previous ones: "Nikola Tesla 1856-1943, Lectures, Patents and Articles" and "Tribute to Nikola Tesla".

Although published in Yugoslavia, it is available from: Omni Publications, P.O. Box 216, Hawthorne, Calif. 90250. Price: $40 postpaid.

The text includes 200 drawings (mostly connection diagrams) with 63 excellent pictures of equipment and spark displays, many of them for the first time.

The diary is a day to day description of the design and various high frequency, high voltage, coils he used at Colorado Springs with test results and comments giving an excellent insight as to the methods he used to analyze and solve problems.

The last thirty pages give comments on the experiments covered by Professor Aleksandar Marincic, DSc. Professor of Electrical Engineering at Belgrade University and scientific advisor to the Museum.

BOOKS FOR THE RADIO COLLECTOR

Newer members have been asking for books on early radio and collecting. Unfortunately, Vintage Radio publications are no longer available from the publisher. A little checking around and we found about the best over-all source of books is VESTAL PRESS who not only handle Vintage books (Flick of the Switch, 1921-1932 Radio Collector's Guide, etc.) but also other-hard- to find books such as: Saga of the Vacuum Tube, The Crosley Radio catalog, the new 1922 RCA catalog and Tin-foil to Stereo.

The Vestal Press catalog lists hundreds of collecting publications ranging from music boxes to railroads. (See p. 11, June OTB). The catalog costs two bucks which is credited to your account on the purchase of any item.

Send $2. to: Vestal Press, Box 97,
320 Jensen Rd. N.
Vestal, N.Y. 13850

BOOKS FOR COLLECTOR STILL AVAILABLE

Morgan McMahon writes that he will be phasing out his Vintage Radio books at the end of the year. The following books are still available:

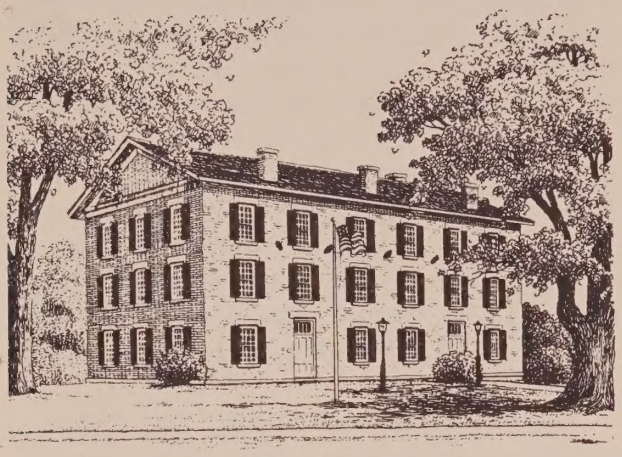
"Flick of the Switch 1930-1950"
"Gernsback's 1927 Radio Encyclopedia"
"1926-1938 Radio Diagrams"

Write: McMahon Vintage Radio Books
Box 1331, North Highland, Calif. 95660
or Tele. 916-332-8262

HORN SPEAKERS

Members are more than ever specializing in their hobby. An excellent example is Floyd Paul (W6THU) who is devoting his historical interest to the development of the horn speaker. He has identified over 220 manufacturers and has summarized their products by weight, height, bell diameter and bell material. A brief resume of his work will appear in a future OTB. Do you have an unusual speaker? Want information? Send SASE to: Floyd Paul, 1545 Raymond, Glendale, Calif. 91201

THE MUSEUM



New Equipment
in A.W.A. Museum

Jim Reddig, C.A.P., Fred Penard, Herb Morgan, Mrs. Howard Schrader, W2RIZ, W2OWF, W6GH, KA2DZC, W6AX, W8YM

NOT NECESSARY TO STEAL TUBE

The LRS Relay is a rare German tube which AWA has wanted for some time. The Committee was willing to buy, beg or steal the tube since it plays an important part in tube development. Fortunately, AWA did not have to get on their knees and beg or face imprisonment for theft since Vance Phillips, W6GH, donated his LRS to the Museum. A most welcome gift (See Tyne's Tube Column).

Several other rare items were received during the Conference and will be mentioned in a future OTB.

JAPANESE TRANSMITTING TUBES

Jim Reddig recently delivered four large boxes of transmitting tubes to the AWA Museum. The tubes had been removed from the Japanese battleship NAGATO shortly after WWII. Some of the tubes were direct copies of RCA types: 852, 860 and 861 while most of the larger ones were quite different. An unique addition to the AWA Vacuum Tube Collection... a gift from Mrs. Edward Gilfillan.

A.W.A. HISTORICAL MUSEUM

East Bloomfield, N.Y.
Bruce Kelley, Curator

Museum Hours:
Sunday ——— 2 to 5 P.M.
Wednesday ——— 7 to 9 P.M.
May through October

Open to groups by appointment
Tele. (716) 657-7489

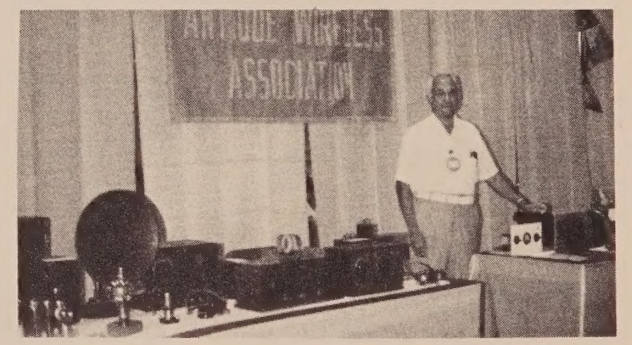
Free Admission

Museum Telephone:
(716) 657-6260

AWA AT BATON ROUGE, LA.

"Wes" Chatellier reports the AWA booth at the recent ARRL National Convention a major attraction. W5DPM displayed rotary gaps, loose-couplers, old mikes and keys, transmitters and even a Grebe CR-18 which brought many tears to passing old timers.

Doug DeMaw (ARRL), AWA member Lew McCoy, "Soupy" Groves and others stopped to chat and QCWA's Ethel Smith couldn't resist taking a pix of the exhibit. Nice going Wes!



W5DPM at AWA Booth [Foto by K4LMB]

OT transmitting Contest: JAN. 16 and JAN. 24
See details elsewhere in OTB..
JOIN the FUN!